



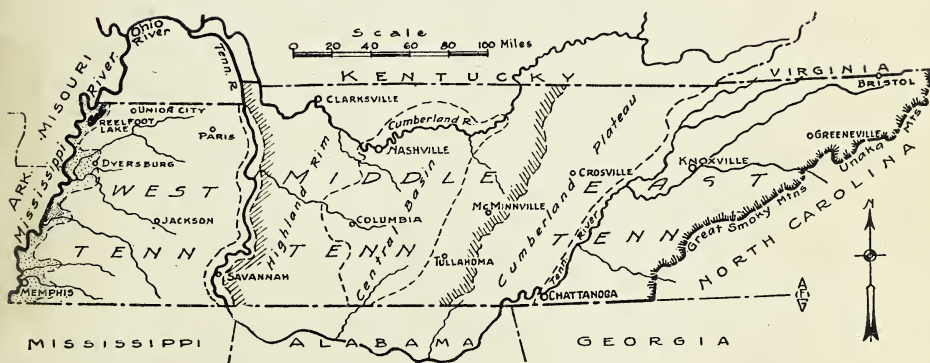
THE MIGRANT

A Quarterly Journal
devoted to
BIRDS OF TENNESSEE



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Edited by
ALBERT F. GANIER

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THE MIGRANT

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March
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THE MIGRANT

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Birds in Tennessee. Issued in March, June, September and December

BIRDS AND THE WEST TENNESSEE RIVER LAKE

By CLARENCE COTTAM

The Gilbertsville or Kentucky Reservoir,¹ soon to be formed, will create a tremendous inland lake extending north and south across practically all of western Tennessee and Kentucky for a distance of more than 180 miles. This "Great Lake of the South" will vary in width from 1 to 3 miles; and because of its very irregular margins and numerous indentations, it will have a shore line of approximately 2,000 miles—nearly 2½ times the air-line distance from Chicago to New Orleans, or somewhat less than the distance from Nashville, Tennessee, to Seattle, Washington!

Though there will be plenty of deep water, the lake will contain an enormous acreage of shallows, which will certainly be conducive to the growth of emergent vegetation. Submerged aquatic growth (an important source of food for waterfowl and fish) will be produced only if water fluctuation is held within reasonable limits, especially during the critical growing season. Coppice or sprout and willow growth from the extensive timber cuttings will surely appear in shallow water unless continuous effort is made to control it.

Numerous shallow bays and fingerlike projections extend into the adjacent upland, some of which is well timbered or contains much shrubby growth, while other tracts represent good agricultural land. The best agricultural land in the Tennessee Valley will be inundated or will border upon the impoundment. A number of extensive agricultural areas will be dewatered. These areas will include some 6,000 acres near the mouth of the Duck River, slightly smaller units near Camden along U. S. Highway 70, and tracts near the mouth of Big Sandy River. These units will be diked off, and large pumps will keep them dry so that the land can be farmed during the summer yet be flooded shallowly during the late fall and winter.

As a consequence of this treatment and of the diversified nature of the entire area, many types of environments attractive to bird life will inevitably be produced. Unquestionably, this in turn will result in a marked increase in bird populations and particularly in a much greater variety of species than now regularly visit the area.

Water birds, which now are relatively little known in Tennessee, should become common at least during migration. Grebes, cormorants, herons, egrets, bitterns, rails, coots, gulls, terns, plovers, sandpipers, and other shore birds

¹As most of this reservoir will be in Tennessee, it might be more appropriately called the Tennessee Reservoir, but apparently this name has not been suggested.

NOTE: For maps to illustrate this article, see pages 11 and 12.—Ed.

will certainly increase in abundance. Management of lands adjacent to the impoundment, along with more effective protection, will also result in an increase in many species of upland birds.

If the area or sizeable units of it are properly managed to encourage wildlife, we may perhaps effect the most startling and favorable increase in bird population, particularly of waterfowl, including both ducks and geese. For evidence of this, we may refer to the record on Wheeler Reservoir of Tennessee River in northern Alabama. The record here is the more significant and encouraging when we remember that the area is well off the normal migratory flight lanes of ducks and geese. Through cooperative agreement in 1938 by the Tennessee Valley Authority, the State of Alabama, and the Fish and Wildlife Service, a Federal refuge or sanctuary was established on but 40,000 acres of this reservoir and adjacent T.V.A. holdings. In this same area the T.V.A. was obligated to carry on necessary mosquito control and to manage the river for the promotion of navigation and flood control and the production of the needed electric power; also, normal agricultural practices were followed on the larger blocks of agricultural land within this refuge. The area was used as a proving ground to harmonize these varied and often conflicting interests, and the results have been startling. Cooperative studies have shown not only that the interests of wildlife conservationists and mosquito-control workers are compatible, but also that these two groups have many problems in common. Water levels can be regulated for the benefit of both interests, and burning practices and larvicidal control can be so regulated as to serve one purpose without noticeably injuring the other. It is possible to grow certain marsh and aquatic plant species that will furnish essential food and shelter for waterfowl and other wildlife and, at the same time, serve the mosquito-control interests by keeping out vegetation that would encourage mosquito production. Agricultural practices on these wildlife lands can readily be adjusted to serve wildlife and benefit the local farm people. This is accomplished by "share-cropping," that is, the farmer grows corn, beans, peas, or various grain crops and then, instead of paying the Government rent for the use of the land, he leaves the equivalent—say a third or fourth of the crop—in the field as food for the birds. Very few birds frequented this area before the refuge was established. Now, five years after the establishment of the refuge, 1,000 to 7,000 Canada geese and 10,000 to 20,000 ducks find attractive wintering habitat on the area, and many more birds find attractive food and shelter during protracted periods of migration. The development and management of the refuge have resulted in a marked increase in quail populations and in the supply of native furbearers, which add considerably to the local interest and economy. Under Federal law, 25 percent of all income derived from the sale of surplus products, such as furs, grazing or crops, is returned to the counties in which the areas are located. Unfortunately, on most adjacent T.V.A. holdings where wildlife development had not been practiced by the Fish and Wildlife Service, there was relatively little utilization of the area by wildlife.

Similar development could readily be made throughout most of the extensive T.V.A. holdings. Gilbertsville Reservoir is ideally suited to such development. The area would be a boon not only to the people of the States of Tennessee and Kentucky but to the Nation as a whole. The reservoir is directly

within the Mississippi flyway (see map); furthermore, this flyway has very few wintering and resting areas where food and protection can be afforded the birds between the northern breeding grounds and the Gulf coast marshes.

Surely it would be in the best public interest if the States of Tennessee and Kentucky and the two Federal agencies, the Fish and Wildlife Service and the Tennessee Valley Authority, would promptly form cooperative agreements to develop and manage appropriately suitable tracts of this land that is now under Federal ownership. Such development and utilization of the area need not interfere to any noticeable extent with power development, navigation, and flood control—the primary purposes of the reservoir.

Immediate action is necessary to conserve and utilize this important national resource, to prevent deterioration of the habitat through growth of obnoxious vegetation, and to keep development costs at a minimum. If such action is taken, this section of the country will undoubtedly become one of the Nation's most important recreational areas. Plans for development of the area are already formulated (see map) by the respective States and the Fish and Wildlife Service.

U. S. FISH AND WILDLIFE SERVICE, CHICAGO 54, ILL.

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LOWERY: PROBABLE MIGRATION ROUTES OF CHIMNEY SWIFTS

A REVIEW, BY BEN B. COFFEY, JR.

The author made good use of the opportunity to band large numbers of Chimney Swifts at Baton Rouge, La., a strategic location for such studies. Analysis of banding results indicate that this species migrates chiefly across the Gulf of Mexico rather than along the coast in either direction, and considerable field work is reported¹ to support this hypothesis.

A total of 21,414 Swifts were trapped and banded,—115 in April, 1939, the remainder during the autumns of 1937, 1938, and 1939, constituting nine flocks, varying in size from 500 (number banded) to 4,699. As elsewhere in the South the Swift population is large and there is apparently a rapid turnover. For example on Sept. 24 and Sept. 27, 1938, 5,699 Swifts were banded, yet only 218 (3.8 per cent) of these were "repeats" on Oct. 1, 1938. A week later, with 9,499 banded birds of the season as possibilities, only 46 (.5 per cent) were taken. There are 5 "recoveries" of the season which support evidence presented by other banders of random movements. These range from a bird recovered the same day at Clinton, La. (30 mi. NNE) to one retrapped at Clarksville, Tenn. (475 mi. NNE) five days later.

The total number of "returns" were 340, from the 16,000 individuals banded one and two years previously. Three of these were "Returns-2": viz, two originally banded Oct. 1, 1937, retaken Sept. 27, 1938, and Oct. 7, 1939; one banded Oct. 12, 1937, retaken Sept. 24, 1938, and April 2, 1939.

To the returns can be added two originally banded at Nashville in August, 1938, retrapped at Baton Rouge the same season and retaken there Oct. 14, 1939.

¹Lowery, George H., Jr. 1943. The Dispersal of 21,414 Chimney Swifts Banded at Baton Rouge, Louisiana, with Notes on Probable Migration Routes. *Proceedings of the Louisiana Academy of Sciences*, Vol. VII, pp. 56-74.

Apparently the latest reports of recoveries available to the author were for 1941, four years after the original banding and two years after the final banding. Of his 21,414 birds, 126 were recovered at distances varying from 15 to 1,900 miles; 93 were chance single recoveries, while 33 were retrapped by 13 other banders. "Foreign returns," that is, birds banded by another station operator and retrapped at Baton Rouge, numbered 62 (with local returns on 2). These were from 14 other Swift banding stations which are shown on figure 2 reproduced here. (Blind River, Ont., should also have been shown as a point of banding.) Individuals of interest: 39-34177 banded, Lexington, Mo., Sept. 23, 1938; retrapped at Baton Rouge, Sept. 27. Having entered the chimney Sept. 26, it covered an airline distance of 600 miles in 3 days. 38-152845 banded, Baton Rouge, Sept. 24, 1938; recaptured and released at Campbellton, N. B., June 11, 1939; recaptured Aug. 22, 1940, 15 miles south-west at Upsalquitch, New Brunswick.

Altogether there was an interchange of banded Swifts with 20 other banding stations. Results can be summarized thus: Tennessee area, 49; Lexington, Mo., 2; Iowa-Ill., 5; Blind River, Ont., 3; Kingston, Ont., 10; Charlottesville, Va., 12; Atlanta-Opelika, 13; Hattiesburg, Miss., 1; Total, 95.

From these data, as shown on the map, Lowery considers the Lower Mississippi Valley as an area of convergence for most of our Chimney Swifts. This fits in with or is an extension of migration routes advanced by other Swift banders. All cooperators have in common a paucity of records below the Baton Rouge area so the author endeavors to throw light on possible routes by which the Chimney Swifts leave the country each fall and return each spring. Migration records for Texas and Florida were examined and a special watch was kept during field trips into those states. According to the evidence at hand the bulk of the birds are postulated to move across the Gulf of Mexico. The possibility is considered that in the spring some may use flank routes to reach central Florida and eastern Texas, respectively, but in the fall all birds, including Texas and Florida residents, apparently concentrate in the lower Mississippi Valley.

Lowery eliminates Florida as a major flyway in the spring and, moreover, suggests that Florida residents may form part of the fall concentrations on the central Gulf Coast. In the Spring Chimney Swifts arrive about March 19 in an area from Baton Rouge to Pensacola. A few March records in Florida might be accidentals from this movement. Most appear much later. Based on field data and records from Florida and from Hispaniola (Haiti), the author states that this species reaches central and northern Florida before it does southern Florida where it is rare, and surmises that these individuals use an Hispaniola-Bahaman flyway at that season. In the fall the species is apparently absent from the Antilles and rare in the Florida keys. From Bent (1940) he cites a Swift banded in August at Sanford, in central Florida, that was found with a broken wing the next month near Tallulah, in Northeast Louisiana. Howell (1932) mentions "large flocks in the fall" in Florida but makes no mention as to actual size; these are considered to be local gatherings. Their banding would certainly indicate whether they move to the northwest like the Sanford bird or simply move westward and there fall into the great trans-Gulf flyway. Conversely, of the large numbers of Swifts banded at Baton Rouge and Memphis, only one has been recovered in Florida:

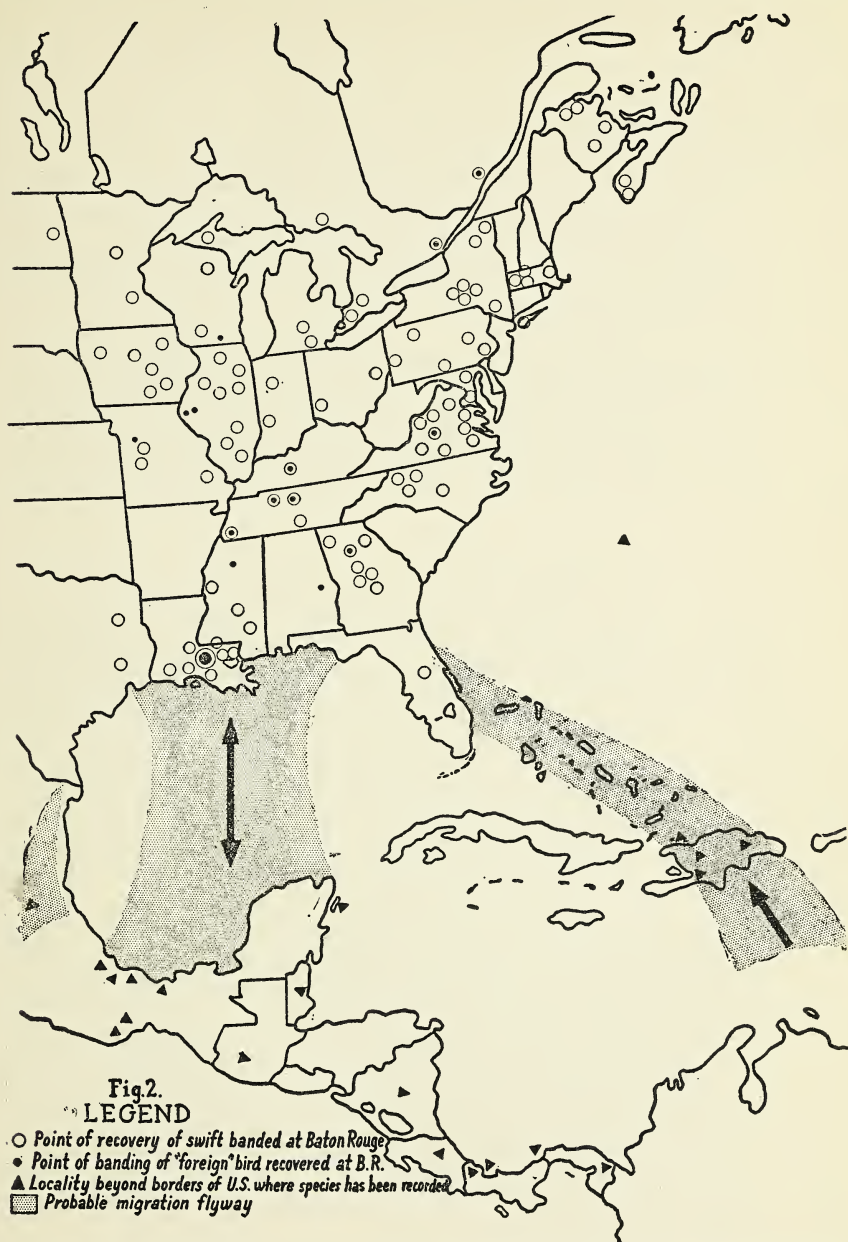


PLATE I. Dispersal and convergence map for Chimney Swifts banded at Baton Rouge, Louisiana. (*By courtesy of La. Academy of Sciences.*)

Similar maps for Memphis, Chattanooga, Atlanta, Ga.-Opeleika, Ala., and for the Charlottesville, Va., areas, may be found respectively in *THE MIGRANT* for Dec. 1936, V. 7, p. 78; Dec. 1938, V. 9, p. 86; and, June, 1940, V. 10, p. 43 (taken from *Bird Banding*, V. 11, p. 37); *Bird Banding*, 1937, V. 8, p. 21; and *Bird Banding*, 1942, V. 13, p. 62.

34-40620, banded Oct. 8, 1938, at Baton Rouge, found dead, May 2, 1939, at Umatilla, Fla.²

In Texas, flights of Swifts have been recorded at Brownsville, during March and April and again in September, and the species has also been noted in eastern Mexico. However, Lowery and Burleigh saw none between Oct. 21 and 28, 1937, in east Texas (including three days at Brownsville) although they were abundant at Baton Rouge, Oct. 21. Only two birds banded at Baton Rouge have been recorded in Texas, both in the spring of some later year (April 17 and May —), indicating birds at or enroute to their nesting localities.³ If nesting, their trapping at Baton Rouge in the fall substantiates the theory of a concentration there.

Confirmation awaits data from Florida and Texas banded birds. However, the author has made a logical deduction and has supported it well with data. As he concludes, "A thorough understanding of the flyways traveled by Chimney Swifts in leaving and returning to the United States, is of considerable significance for therein may lie the solution to the enigma of the bird's winter home."

FORT SILL, OKLAHOMA, March, 1944.

²The author might have pointed to the lack of Florida records by Green at Chattanooga (*Bird-Banding*, 1940:37-57) and by Calhoun and Dickerson at Charlottesville (*Bird-Banding*, 1942:57-69.) The last two banded 20851 Swifts at the Virginia location and reported that their birds apparently migrated to the east of the Appalachians, except that in the fall a portion evidently used a secondary route to the west of the mountains, some being retrapped at Memphis and at Nashville. Those retrapped at Baton Rouge might be of the latter group but the numerous recoveries of Baton Rouge birds in the East indicates that the bulk of the eastern residents converge in the Baton Rouge area regardless of whether they use a hypothetical route east or west of the mountains.

³That some Swifts are only passing through East Texas in the spring is evident from the following 14 recoveries in that area gleaned by the reviewer. Chattanooga (from 17,165 banded), 3 records; April 29, 30, May 1 (Green, 1940). Memphis (35,113), 6 records; April —, May 4, 5, 6, 9, 12. Clarks-ville, Tenn. (7,765), 1 on April 18 (Hutchison, *in litt.*). Nashville, 3 records; April 24, 25, May 4 (Laskey, *in litt.*). Charlottesville (20,851), 1 on April 30 (Calhoun and Dickerson, 1942). The Memphis bird recovered May 9 was one of a flock of 50 trapped in a stove. The late spring migration in Florida and in Texas might be connected with the late migrants reported at Memphis (THE MIGRANT, 1942, p. 68)—over 700 on May 14, 1942, of which 450 remained at least two days later.

THE SWAMP NEAR CEDAR HILL

BY ALFRED CLEBSCH

When the bird-watcher leaves the city, he is delighted by the first habitat where he can always count on a group of birds. He may even know of some rare bird that is to be found in its shelter. But one day he finds the scene changed; the place has been cleared for some project, a street is laid out and houses are going up. With helpless regret he sees the city expand and must console himself that there are similar habitats farther out. A feeling of irreplaceable loss, however, overtakes him when he learns that progress has seized some remote haunt, a deep woods, a marsh or a swamp that was the goal of his journeys. The cross-cut saw and the drainage ditch do quick work and soon a cultivated field replaces the wildlife habitat that had no more claim to be preserved than the fancy of some bird-lover and nature-student. Since such places are getting scarcer as the years pass, it seems fitting to record their existence and pay tribute to them while they can still be visited by our fellow bird-students. With this in mind I want to write of the swamp near Cedar Hill.

On account of its topography and land development swamps are scarce in the northern part of Middle Tennessee. Their number is made up mainly by the few Cumberland River sloughs that have not yet been drained. In contrast to them there is in the northwestern part of Robertson County on the drainage divide between Red River and Sulphur Fork an upland swamp that can well demand the attention of the bird-watcher in search of unusual habitats. It lies about a mile southeast of Cedar Hill, a small town on highway 41E and on the Nashville-Hopkinsville line of the Louisville & Nashville Railroad. There are about thirty acres of fine woods, bisected by the railroad track. During spring and early summer the northern section is well inundated, but in the drier seasons the water recedes to a buttonbush area only a few acres in extent. Still, the abundance of mosses and lichens on the tree trunks as well as the sponginess of the ground underfoot attest the moisture of the site. The place began to fascinate me 30 years ago when I used to see it from the train, but only in recent years has it been my good fortune to visit it in company with other T. O. S. members. Mr. Albert F. Ganier, who possesses an intimate knowledge of the geography of our State, tells me that this swamp is unmatched in this section of the country. While so far I have been in it only on winter days, Jack Calhoun has written of interesting May experiences there in the September, 1935, issue of this magazine. He speaks of it as a highland marsh, but most of it is now properly a swamp; only in the buttonbush area do grasses and sedges typical of marshes grow. Ten years ago two pairs of King Rail were found nesting there and a Least Bittern was seen, and so it appears that a transition from marsh to swamp is nearing completion. The stand of timber shows judicious use by the owner and one is reminded of a park. The trees are mainly varieties of oak with a preponderance of southern red oak, pin oak and willow oak. They are well spaced and well shaped, reaching a height of upward of 60 feet, and are of greater age than one would guess by their size. Those on the drier part south of the railroad are larger. The place is fairly free from tangled undergrowth. Peat moss is

growing throughout the swamp and in spots large green cushions of "tree" moss seem scattered on the ground in order to form a pleasing contrast with the delicate pattern of willow oak leaves that lay a carpet of brown on the forest floor.

At the end of the years 1938, 1939 and 1940 a winter census of birds was taken here and published in the Christmas census tabulation. The following two years we had to forego these trips and this season it was already the middle of February before a visit could be arranged. However a cold wave that was sweeping the country at the time made it wintry enough. It seems that one can count on an average of 40 species of winter birds in the swamp and its immediate surroundings. The composite list for the four trips comes to 56 species and shows mostly our common land birds. Carolina Wrens, Cardinals, Towhees, Juncos and White-throated Sparrows are the typical inhabitants of what undergrowth there is. The companionable Chickadees and Titmice are about us constantly on our search through the swamp. One daily list showed 66 Titmice, another 75 of them. But the main features of the birdlife are the Woodpeckers and the Blue Jays, their presence easily explained by the oversupply of acorns the place produces. Flickers reached a high of 37 one day, Downy Woodpeckers of 31, and Blue Jays of 51. An interesting encounter this year was finding 9 Red-headed Woodpeckers, a species not seen at all on other winter visits here. We watched them particularly and found them ranging in the upper parts of the trees where we believe they were feeding. One of them ducked into a hole about 25 feet up in a snag as we came near. We "pounded" him out again and stayed behind him while he made a wide circle to get back into his hiding place. Examination of the stomach contents of a collected specimen showed it full of macerated acorns of the willow oak. Either these birds come down to the plentiful supply still on the ground or they find stores hidden up high. Hairy and Pileated Woodpeckers are also present, though in small numbers. One of the latter had been excavating for grubs at the base of a rotten willow stump. The hole started at the roots only a few inches above ground level and actually went six or eight inches below the surface. One species that is closely connected with swamp habitat in winter is the Rusty Blackbird, and on the census made January 1, 1939, 130 of them were listed. They were in two flocks, the smaller one at the water's edge of a small buttonbush pond a mile east of the large swamp and the larger one had temporarily repaired to a barn lot where hogs were being fed on corn. This year we listed only two individuals near the water-filled part of the swamp.

The clearest proof that we are in an exceptional place comes from the two birds of prey that rule the domain, the Red-shouldered Hawk by day and the Barred Owl by night. Ordinarily we look for them in lowlands and river bottoms. Here, in this upland swamp, they are found on every visit, in fact, the Red-shouldered Hawk's loud "singing" is heard as soon as we leave the highway and it isn't long before their nest is located. One year it was proven that two pairs of these hawks occupy this territory when on April 14, 1940, two nests with eggs were found. To the Barred Owl we are led by the noise the Crows are making as they give the victim of their play no rest. The mate of this owl we found lying dead beside the railroad tracks. Evidently it had been hit by a train at night and was killed by the impact. Barred Owls cling

so much to their realm that it is reasonable to assume the other owl will stay on and find another mate. Emphasis on the strangeness of these two swamp rulers in an upland region was given by a pair of Red-tailed Hawks we found in a woods beyond the buttonbush pond. Dr. Spofford discovered their well-built nest high up in a large chestnut-oak. It is indeed remarkable that these two species of hawks are such close neighbors.

The land surrounding the swamp consists of stockfarms in high state of cultivation, yet it is not devoid of ornithological attractions. Among others there are Killdeer, Meadowlarks and Horned Larks in the fields, Tree Sparrows and Fox Sparrows among the thicket-loving species in the gullies and the ever-entertaining Sparrow Hawk on the telephone lines along the highway.

CLARKSVILLE, TENN., February, 1944.

HOW BIRDS SPEND THEIR WINTER NIGHTS—II

A SYMPOSIUM, BY T. O. S. MEMBERS

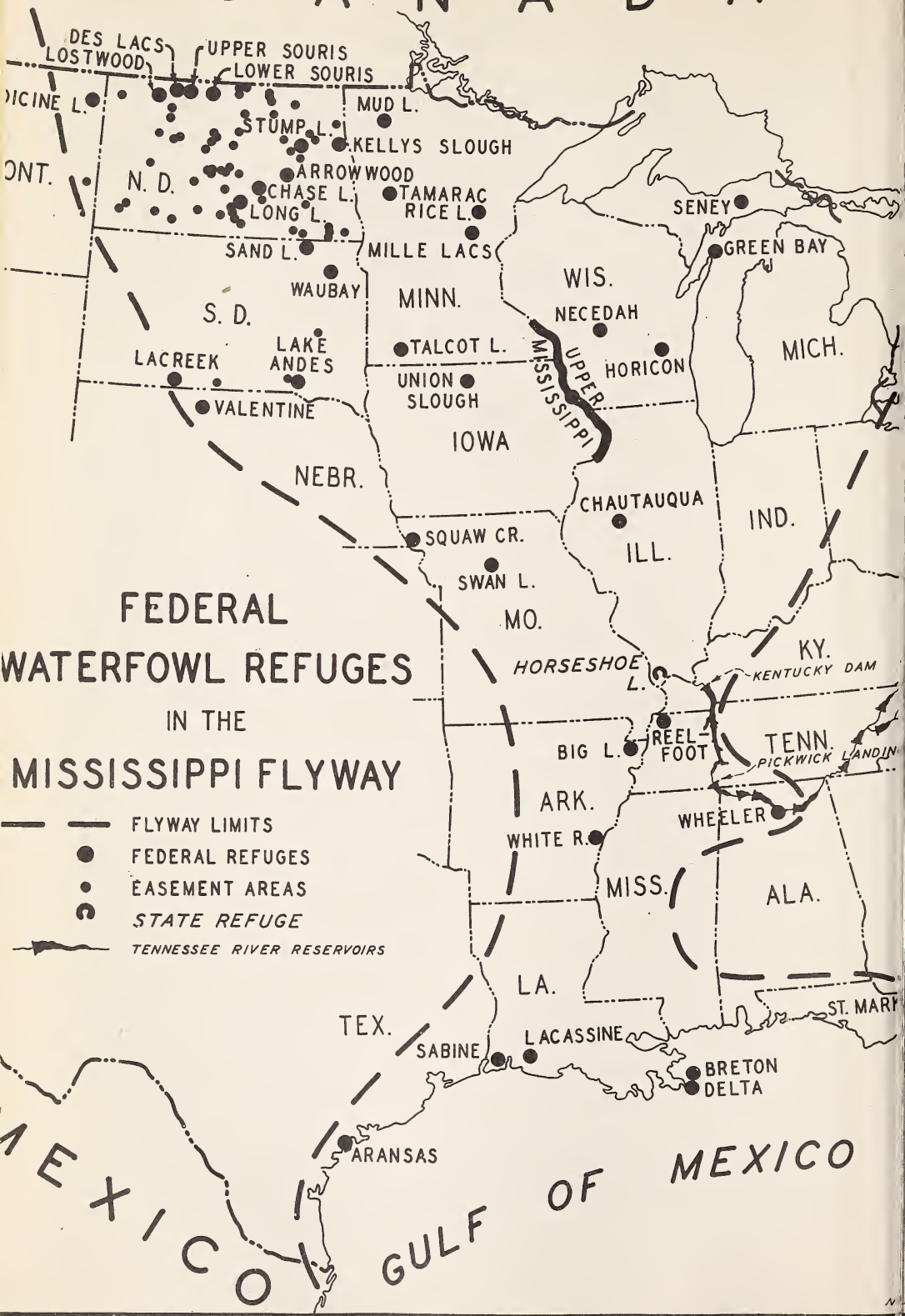
In THE MIGRANT for March, 1943, there appeared the first installment of observations under the above title. We requested our members to be on the lookout for further data on this interesting subject and now give these additional observations. Probably another installment will appear next year if enough reports are received meanwhile.—EDITOR.

By G. R. MAYFIELD, Nashville, Tenn.—One of the largest winter bird roosts ever seen in Middle Tennessee has recently been in use in West Nashville, within the city limits. It is bounded roughly by Centennial Boulevard on the north, by 35th Avenue on the east and by 40th on the west. The whole area is about a half mile square and includes a deep, broad valley surrounded on all sides by steep slopes which are covered with a dense, almost impenetrable growth of haws, mock oranges, greenbriers, stunted hackberries and various shrubs. Large elms, hackberries, and other trees grow on the tops of the slopes and furnish a gathering place for the hundred of thousands of birds which spend a noisy night in this area. The fact that hardly a trail, much less a street, passes through this section makes it an ideal spot for the roost. In fact, the place was not definitely located until January, 1944, although it had been in use in 1942-1943 according to the testimony of some people living on the hills near by. One imaginative person declared that these "ricebirds" (Starlings, he meant) had fled from European battlefields to enjoy peace and quiet in Tennessee. He declared that they were so numerous and hardy that crossing the ocean was an easy task for such birds.

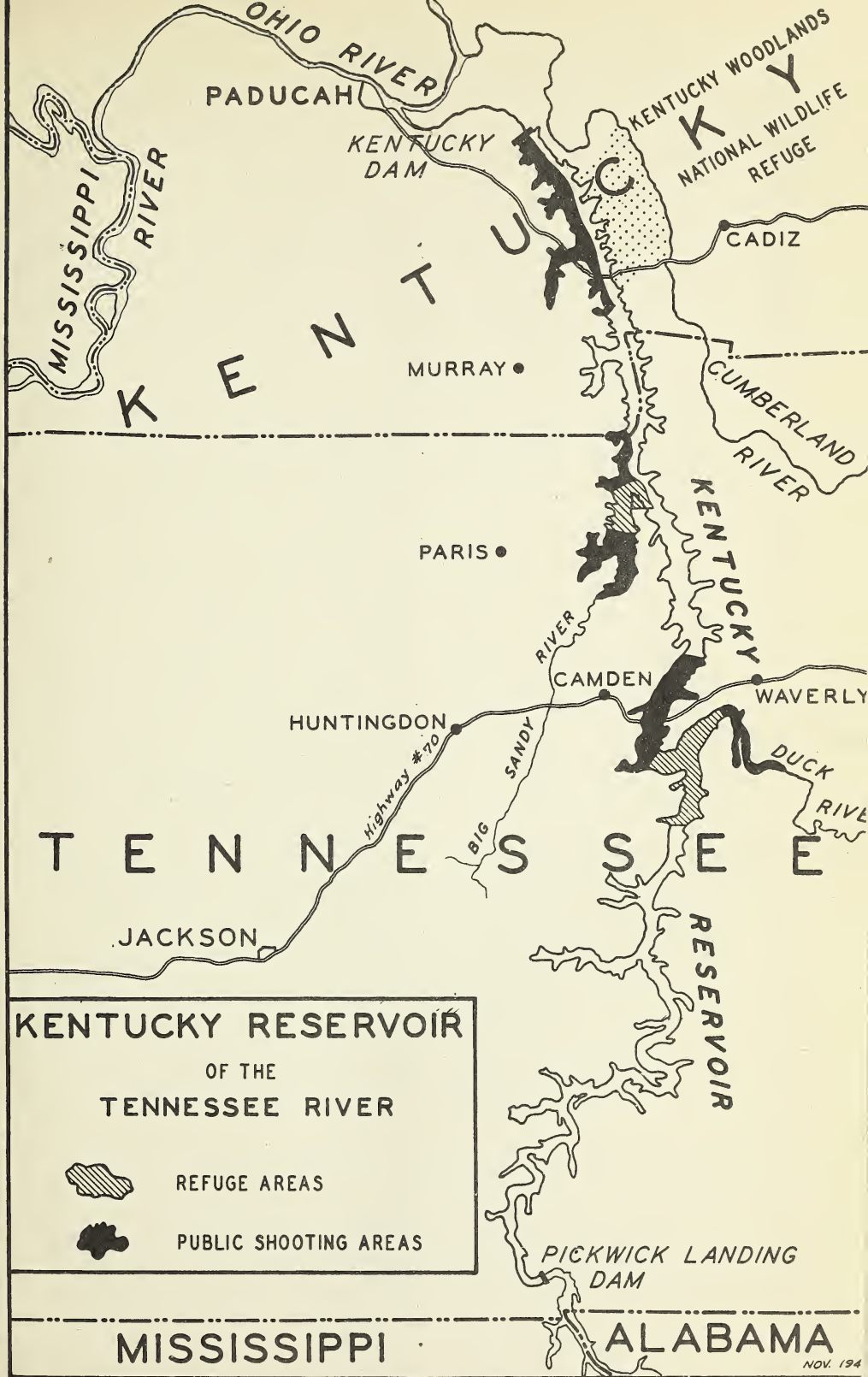
As is usual with such roosts few birds are found there by day—only English Sparrows, a few White-throats and White-crowns, Towhees, Doves, Cardinals and some Flickers can be heard in late afternoons before sunset. But about sunset the clans begin to come in from all points of the compass; small flocks at first, then myriads of birds which cover the sky as they mill around before settling in the large bare trees. Then in groups of fifty to one hundred they drop down in the tangled thickets where they spend the night.

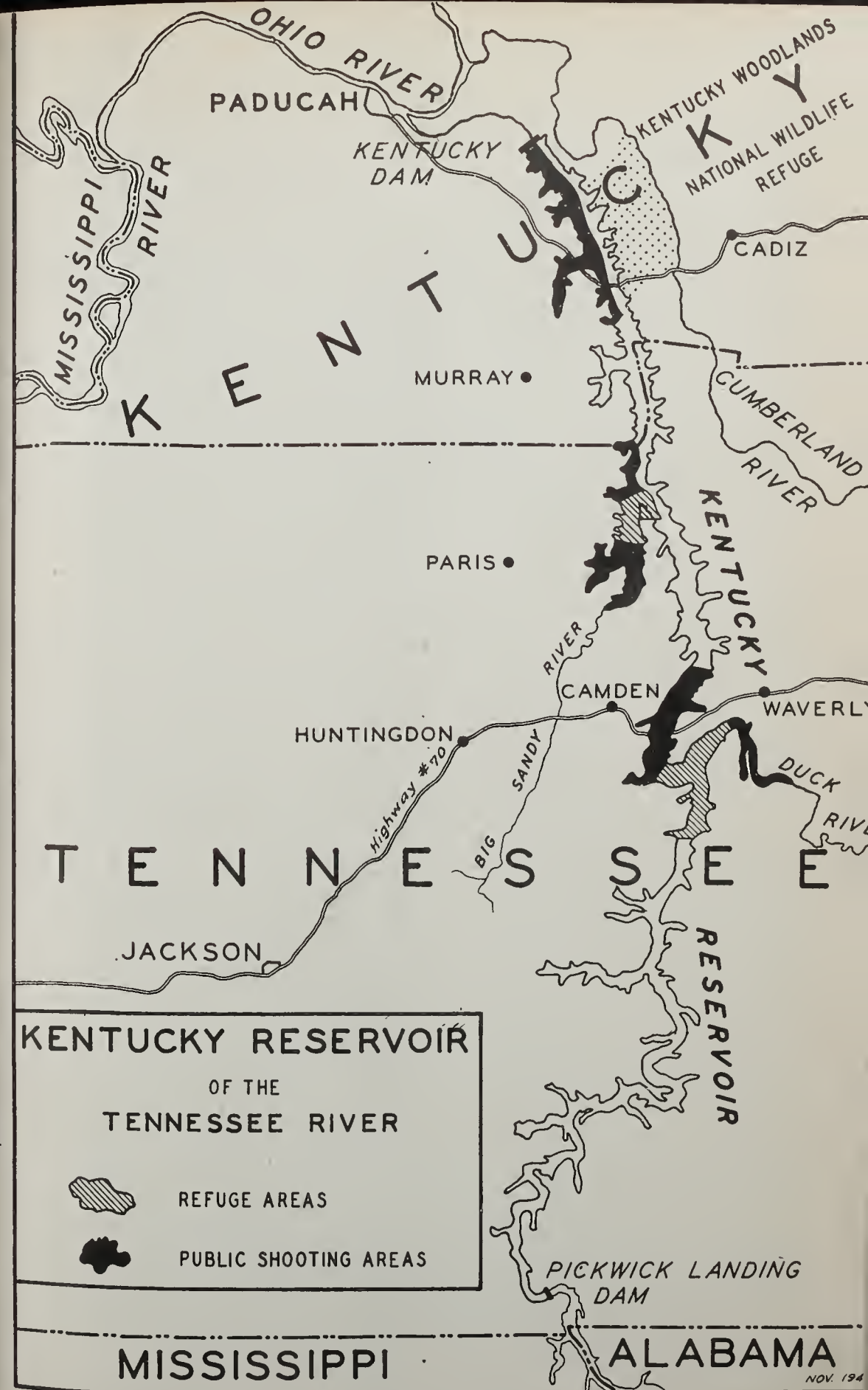
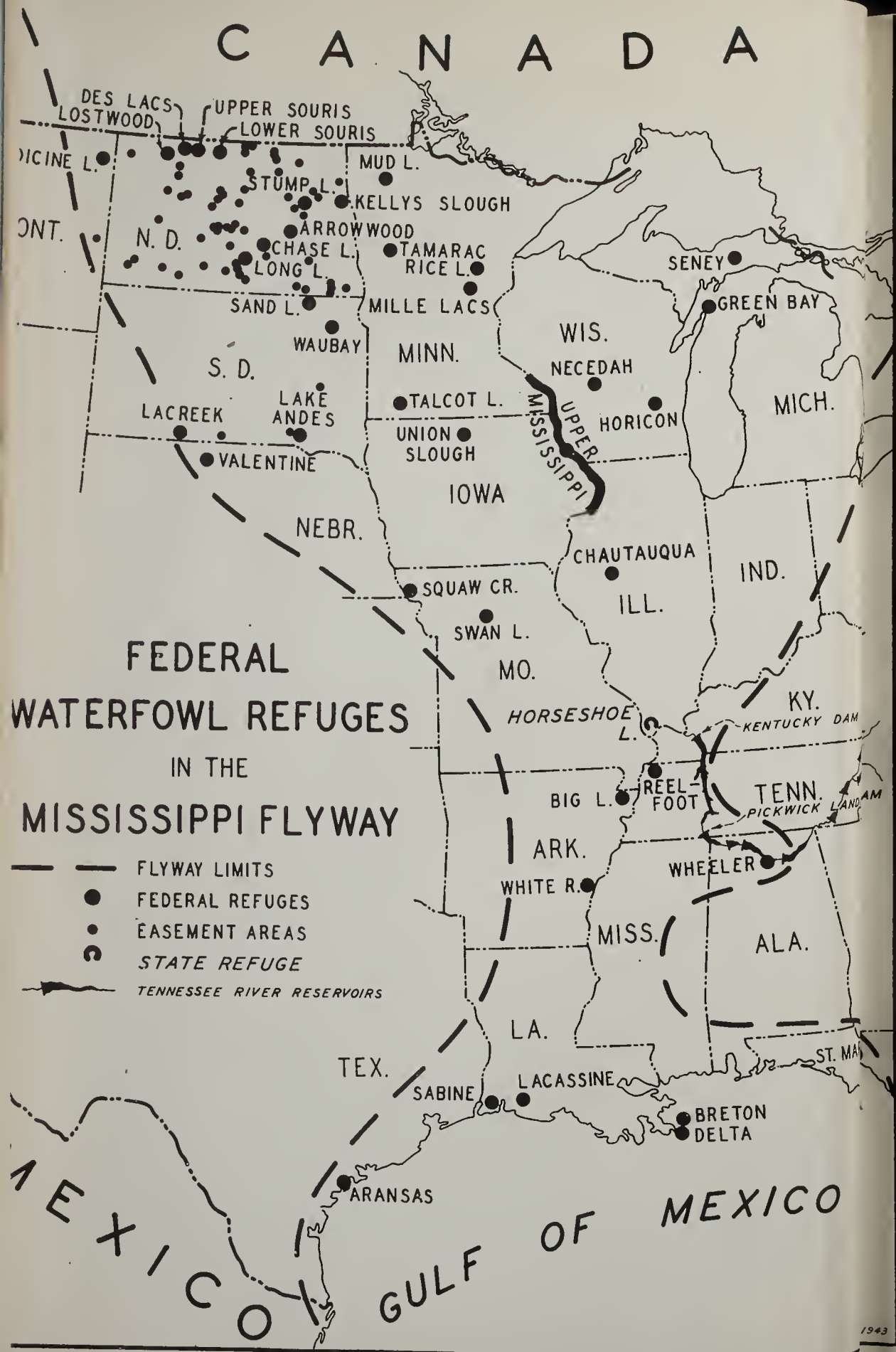
It was estimated that approximately a million birds were roosting there during the middle of winter. The writer's estimate of numbers in late February, was 700,000 Starlings, 150,000 Robins, 100,000 Grackles and some 50,000 Cowbirds, Redwings, Rusty Blackbirds and English Sparrows. Others

C A N A D A



FEDERAL
WATERFOWL REFUGES
IN THE
MISSISSIPPI FLYWAY





estimated the numbers as low as 750,000 with some variation in the above proportion. One can make a fair approximation of a flock up to 5,000 birds. Multiplying the approximate number of flocks by the average number of birds per flock gave the figures above quoted.

Among other winter roosts that have existed in Nashville, beginning in 1912, were those on the Vanderbilt campus, Centennial Park, Mount Olivet Cemetery, David Lipscomb campus and vicinity, Woodlawn Avenue at Ensworth, and the West Nashville roost above described. An article on some of the former roosts, by H. C. Monk, may be found in *Journal, Tenn. Acad. of Science*, for Dec. 1933, pp. 362-370.

By LAWRENCE KENT, Memphis, Tenn.—Each evening, during March and for some weeks earlier, "blackbirds" numbering hundreds of thousands converge on Elmwood Cemetery from all directions to roost in the magnolia and holly trees that abound in this eighty acre tract two miles southeast of the business district of Memphis. Observations made of flocks flying toward the roost indicated a high percentage of both Bronzed Grackles and Starlings, small groups of Robins and some unidentified species. At the roosting site, both male and female Redwings were positively identified and probably Cowbirds and Rusty Blackbirds were present, too. At dusk, the birds would dart into the leafy shelter of the evergreen hollies and magnolias from the bare branches of the nearby oaks where they first congregate. Excrement beneath the roosts covers the ground, causing damage to the lots in the area, and numbers of dead birds litter the ground as well. Flocks of Cedar Waxwings were also noted using the roost as well as Myrtle Warblers, Mourning Doves, White-throated Sparrows, Blue Jays and Mockingbirds. The severe hail-storm which struck the city the night of March 26 was not heavy enough in the vicinity of the roost to cause mortality among the birds. (On another page, Mr. Hutcheson describes the severity of the hail-storm referred to above.—Ed.)

By AMELIA R. LASKEY, Nashville, Tenn.—In looking over my notes, I find some further data on roosting to add to my notes printed in the first installment. Flickers have been choosing to roost high up in the peaked gables of our home where they cling to the rough brick and are sheltered by the projecting eaves of the roof overhead. On occasions, one has been in each the north, east and west gables. They go to roost early; a typical December record being four p.m., becoming later as the days lengthen, but always early. One Flicker also has regularly used the Martin house for its roost. In all seasons of the year, thick growths of rose vines on trellis and fence posts have been used by Mockingbirds and Cardinals. A male Red-eyed Towhee spent an entire winter season roosting in a thick mound of bramble vines that had grown several feet high. He always announced his coming with the "chewink" whistle and was among the late-to-roost group at dusk. Juncos regularly used corn shocks as winter sleeping quarters. Purple Finches used the bushes in a dense mixed shrub border, a group of four or five roosting together. In summer, a compact group of five young hackberry trees was very popular with many birds. As there was usually considerable contention among several species, one could not be sure until deep dusk which birds finally succeeded in securing lodging for the night. But even when light was

too dim to see them, the final occupants during one season were identifiable by their "good nights." The sputter of two Brown Thrashers, a soft little song from a Mockingbird, and the distinctive gurgling of a Wood Thrush showed these three species often occupied the clump simultaneously. In *Nature Magazine* of October, 1936 (28:147-148), S. F. Aaron published another article on "Where Do Birds Sleep?"

By SARAH L. WALTON, Rugby, Tenn.—To Symposium No. 1, on roosting, I want to add my observations on how a pair of Carolina Wrens have been sleeping on our front porch since December. The day before Christmas, while on a hunt for a Christmas tree, we discovered a huge hornet's nest which we brought home and hung among evergreens in a corner of the porch. Later, when the 'greens were removed the hornet's nest was left and soon afterward we noted that the opening, or "door," had been enlarged. I thought some bird had been examining the inside to see if there were anybody home. Later, I saw fragments of the nest material scattered on the floor underneath the nest, and discovered that a second hole had been made toward the top of the nest. Then before long one evening on arriving home at dusk, I saw two wrens fly from the hornet's nest and realized that the pair had evidently taken lodgings for the season. This proved to be true and ever since they have spent their nights, snug and warm in that upper and lower room, hung close to the front entrance where people pass in and out, without causing them any inconvenience. We often flash a light quickly to see if all is well and there they are, heads hidden and feathers fluffed to keep out the cold, as happy little wrens as one could wish to see.

By HENRY O. TODD, Murfreesboro, Tenn.—We know that Purple Martins on their southward migration roost in flocks in leafy tree-tops, usually roosts that have been begun earlier by Grackles. No such leafy retreats, however, are available on their spring migration and little is known as to where these early returning migrants spend the chilly nights at that season. In my yard, I have a large 24-room Martin house, erected on a pole fifteen feet above the ground, where these birds nest each summer. The first birds arrived in 1943 on March 17 and on the 23rd a group came in the afternoon and flew in and out of the house, inspecting the various compartments. At dusk, the flock had grown to between one hundred and fifty and two hundred and these gradually entered the house until all were in. So closely did they pack themselves together that finally no more could enter and the tails of the last to go in were protruding from most of the holes. There was good reason, for the thermometer had dropped from 57 degrees at mid-day to 27 during the night. On cleaning out the house a few days later, I found several dead Martins within that had apparently smothered to death.

By ALBERT F. GANIER, Nashville, Tenn.—On a cold rainy afternoon in early February, a female Cardinal entered my garage for shelter and as darkness came on, climbed to a perch on an insulated electric wire, fourteen feet above the floor and a few inches below the peak of the roof. I locked the doors as usual that night when I drove in and next morning found that my guest had gotten out through a small opening above the door. So well was she pleased with her snug, sheltered roost that all through February and to

date (late March) no nights there have been missed, except four when the doors were not open. Throughout that period, this bird had consorted during the daylight hours with a male who with her visited the feeding shelf regularly. He had been "roosting out" but on another cold wet evening in late February he was found to have followed her good example and sought a perch on the wire, a yard away. Not having "learned the ropes" he was found next morning fluttering against the glass before being released. His acceptance of the roost became rather sporadic for ten days, after which he became a confirmed addict and no longer shows nervousness when the electric light is turned on. The two birds, though now about ready to begin a nest, never roost close together but usually from one to three yards apart.

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THE ROUND TABLE

EUROPEAN WIDGEONS IN WEST TENNESSEE: On February 21, I observed three European Widgeons (*Mareca penelope*) on Lake La Joie in Chickasaw State Park near Henderson. I observed these birds with a 20-power telescope in good light. The creamy-white crown and rufous-brown neck showed an excellent contrast. This was the first time I have ever observed this bird in any region of the State. There were two males and one female of this species. I had ample opportunity to observe them on the water for some thirty minutes and also in flight. About a week later, I found three Baldpates (*Mareca americana*) east of Henderson on the backwater from the Forked Deer River. This afforded me good opportunity to make a comparison between this somewhat similar species and the European Widgeon above referred to.

On February 21, I heard a Pine Warbler, in full song. I located this bird in the top of a pine tree near Lake La Joie. His song, resembling that of the Chipping Sparrow, was quite spring-like.—ROBERT L. WITT, Freed-Hardeman College, Henderson, Tenn.

EDITOR'S NOTE: This is the first record that has been reported for Tennessee of this species. Chapman's Handbook states that the European Widgeon is of rare but regular occurrence in eastern North America, including the upper Mississippi valley. There is considerable difference in plumage of this species and the Baldpate or "American Widgeon."

A CONCENTRATION OF PIPITS: The American Pipit (*Anthus spinoletta*) *rubescens*) is often a rather common winter visitant here and is at times a plentiful transient during early spring. On March 14, 1944, some three miles southeast of Rosedale, I noticed a flock of Pipits feeding in an unplowed field that had been planted in cotton the year previous. Upon close examination of the field, upward of 5,000 of these birds were flushed, all of them re-lighting in an alfalfa field on the east side of the road—a field of some forty acres. This is the largest concentrated flight of this species I have seen to date. A few Savannah Sparrows were feeding with the Pipits.—M. GORDON VAIDEN, Rosedale, Miss.

A LONG-EARED OWL NEAR DYERSBURG: One of these handsome little owls (*Asio wilsonianus*) was found dead in the grounds of the Air Base a few miles south of Dyersburg, on January 21, 1944. The specimen, a male, was brought to me by friends and finding it fresh I prepared a study skin of it which I have presented to Mr. Ganier. He tells me that this is the first record for the State west of the Tennessee river and that there are only four or five records eastward.—CAPT. BURT L. MONROE, Dyersburg Army Air Base, Dyersburg, Tenn.

A REMARKABLE HAIL-STORM AT MEMPHIS: On Sunday night, March 26, 1944, a severe and devastating hail-storm swept through Memphis. The storm moved from southwest toward northeast in the manner of a tornado. At about 8:15 p. m. I heard a rumble outside above the noise of my radio and begun to feel worried. As there was no great amount of wind blowing, I could not imagine what was happening. Within a minute or so after hearing the first rumble, I began hearing objects striking my house and the volume of noise kept increasing as well as the number of objects striking. Suddenly, there was such a roar of rattling on the roof and breaking out of window lights that I thought an aeroplane must have exploded and was falling in bits all about me. A large hail-stone over 3 inches in diameter and shaped like a lemon, came through the window glass by my radio and rolled across the floor like a ball. The noise was deafening and the house seemed to tremble under the hammering blows. After about ten minutes of this, the storm passed on as quickly as it had arrived. I ran into the yard and gathered up a few large ones and brought them in for examination. They were so cold I could scarcely hold them. Some were as clear as glass, some frosty like a light bulb and some had sharp spikes or "horns" sticking out all around. They averaged 2½ inches in diameter and the large ones were 3½ and weighed about half a pound. The Memphis paper, which printed pictures of some, stated they were found as large as 5 inches and that many auto windshields and show-windows had been broken. My roof suffered a number of bad leaks and a heavy plate-glass table top that could support several hundred pounds was shattered in the back yard by the icy missiles.

One can readily assume that many birds, roosting in exposed locations in the path of the storm, must have been killed. For example, a flock of Horned Larks roosting openly as they do in a meadow, would surely have been decimated.—W. SCOTT HUTCHISON, 2109 Harbert Ave., Memphis, Tenn.

BIRDS KILLED AT NIGHT BY STORMS: The ability of small birds to survive the night, during severe storms when roosting in exposed situations, is always a matter of wonder. In the park on the public square at Bowling Green, Ky., for many years English Sparrows roosted in the leafless trees during the winter where they could be seen by the brilliant illumination of electric lights all about. Of this roost Dr. Gordon Wilson wrote me several years ago: "In the winter of 1933-34, hundreds of the sparrows died in a cold rain that froze on the trees. Professor Lancaster picked up a bushel or more for use in the biological laboratory."

During the later summer of 1936, the writer clipped two Associated Press reports of similar fatalities. Dated Tuscola, Ill., July 25, the first stated that following a two-inch downpour on the farm of L. L. Smith, he had picked up

412 dead Starlings and English Sparrows under a tree where they had gone to roost the night before. The storm had broken a long, hot dry spell. Dated Oxford, Miss., August 13, the second dispatch stated that 300 English Sparrows were picked up dead under their roosting tree on the courthouse lawn following a night electrical and hail storm. "Kenyon Fuller, caretaker at the courthouse, counted the dead birds," the dispatch continued. "Some thought lightning had struck the tree, but there was no mark upon it. Others thought hail killed the birds, but there were no dead birds under other trees nearby. The storm broke a heat wave."—ALBERT F. GANIER, Nashville, Tenn.

RED-BREASTED NUTHATCH NOTES: To Mr. Stevenson's notes on this species at Oxford, Miss., in the last issue, I would like to add two records at Hickory Flat, 30 miles northeast. They were first observed on Feb. 6 and again on Feb. 13. in pine woods. The two of them were almost constantly giving their little call. I was searching at the time for Brown-headed Nuthatches, occasionally found here, but none of these were found. The other birds on my list were commoner ones and among them were Red-shouldered Hawk 1, Coopers Hawk 1, Sparrow Hawk 2, Turkey Vulture 2, Pileated Woodpecker 1, Hermit Thrush 1, Bronzed Grackle 50, and Blue Jay 14.—FLOY BAREFIELD, Memphis, Tenn.

THE SEASON AT OXFORD, MISS.: The period from Jan. 1 to March 15 has been featured by mild temperature except for the first half of January and one cold snap in February. Although a low temperature of 12 degrees was recorded about Jan. 12, followed by a 6-inch snow on the 15th, no new northerly birds were found to have moved in. Of interest however on the latter date, was the finding of a Pine Warbler among some evergreen shrubbery and the unusual number of 18 Flickers during an hour's trip afield. Single Pine Siskins and Red-breasted Nuthatches were found on Jan. 30 and Feb. 19, respectively.

Species wintering around Oxford began migrating early in the period. Robins and Cedar Waxwings began to appear on the Ole Miss campus around Jan. 18, soon followed by Grackles, Mourning Doves, Meadowlarks, and Killdeer. At about the same time Cardinals, Mockingbirds, Bewick's Wrens, and Field Sparrows (Feb. 19) began to sing. Brown Thrashers were heard first on March 7. Three non-wintering species have arrived to date: Vesper Sparrow, Feb. 29; Purple Martin, March 2; Black-throated Green Warbler, March 10. The last of these records is extremely early. The individual, a female, was viewed through 8X field glasses by the writer and all members of the ornithology class. It was associating with several Myrtle Warblers in a clump of red cedars in the Oxford Cemetery. As I had not previously visited the spot, I had no way of ascertaining whether this individual had wintered. On the same date a flock of 12 Brewer's Blackbirds was discovered; whether this species winters here is also uncertain at the present time.—HENRY M. STEVENSON, Dept. of Biology, Univ. of Mississippi.

NOTES FROM CLARKSVILLE: Our Leconte's Sparrows in the river bend above Clarksville were beset by trials. First their territory was burnt over and then the river flooded for a while the thinner stands of old grass they had to take. Yet they stayed on. We called on them March 13 and also

saw the Short-eared Owl that had winter quarters there. The field between Lock B and Marks' Slough was looked over on March 26 and there were as many Leconte's Sparrows on hand as before. We estimated a dozen of them. The Short-eared Owl had roosted some more in that field, but the pellets we found were much rain-beaten and the owl was not seen that day.—In the marsh near Dunbar's Cave the Short-billed Marsh Wren was still full of curiosity on January 23. The next time we looked for him was a month later, but we had to mark him absent.—Robins returning in early February could have enjoyed the rest of an abundant crop of hackberries, had it not been for the hordes of Starlings that cleaned up all that was left.—Dr. Pickering reported the arrival of the Purple Martin on March 7. The same day he saw a single Chimney Swift, fully three weeks ahead of schedule. So far spring has been mild and early.—On March 26, 2 Lesser Yellowlegs, 4 Blue-gray Gnatcatchers and 7 La. Water-thrushes were recorded, the latter in such numbers that they must have arrived some days prior to this date.—ALFRED CLEBSCH, Clarksville, Tenn.

COWBIRD DATA FROM A BANDING STATION: Since 1935, I have kept records of nests found with Cowbird eggs and foster parents feeding Cowbird young. I have now 20 instances of parasitism, involving 7 species as hosts. There is one case each for Warbling Vireo, Yellow Warbler, and Brown Thrasher; two cases each for White-eyed Vireo and Towhee; three instances for Northern Yellowthroats; ten instances for Cardinals. In addition, William Simpson removed a Cowbird egg from a White-eyed Vireo nest in late June 1936 and found a Cowbird egg on the ground in 1937. All observations were made within two miles of my home, excepting one in Centennial Park and one in Edwin Warner Park. Seven of the juvenile Cowbirds have been banded (the Centennial Park individual in 1939 through courtesy of H. C. Monk). To date none of these has been found in later seasons.

At my home station, from 1935 to 1943, I have trapped, for banding, 30 Cowbirds: 10 adult males, 11 adult females, and 9 immatures. Of these, 4 females and 1 male have been trapped in subsequent years during March, April, or May as returns. Three of these females returned the year following banding; the other female, which had been banded in immature plumage in June of 1940, was not retaken again until May 1943, repeating in June. The history of the male, now about five years old, is significant for it indicates this male has occupied territory near the banding station for several years. He was banded as an adult in June 1940, retaken March 31, 1942, April 25, 1943, and March 16, 1944, with some repeat recaptures and sight records during breeding seasons.

Herbert Friedman (1929, *The Cowbirds*, pp. 175-177), observing unbanded Cowbirds, presents evidence to show that not only do males establish territory boundaries, but females also may occupy restricted areas during their breeding season. He states (p. 171), "... there is more or less definite pairing among the birds. My experience has been that if the birds are not strictly monogamous, at least the tendency toward monogamy is very strong." He cites Alexander Wetmore's corroborating experience.

Since last year, the Cowbirds frequenting my banding station have been color banded. It is hoped that by means of sight identification, as well as

trapping, enough data may be accumulated to understand territorial behavior and mating habits of this species in Tennessee. Do they pair, will a pair remate in other seasons, are they polygynous, polyandrous, or promiscuous?—AMELIA R. LASKEY, Graybar Lane, Nashville 4, Tenn.

GREAT-HORNED OWL KILLS DUCKS: On June 15 last, Dr. Thomas Butler, who lives in the Lealand section near the writer, told me that eight of his young ducks had been killed, but not eaten by the unknown predator. A few days later, three more were killed. The ducks had been enclosed in a covered pen and in a loose opening above, some feathers of an owl were found caught in the wire. We set a snare and that night Dr. Butler caught in it an adult female Great Horned Owl, which incidentally, smelled strongly of skunk. The owl was disposed of as one which had learned bad habits. Two weeks later, owls were reported in the open woods not far away. Investigation showed these to be two adult-sized young of the above species. As evening became dark we could hear first one, then the other, calling as they flew from tree to tree. The note is a peculiar *Keee-ent!* and I was at a loss to identify it until I saw the two birds fly into a dead tree where I could see their ear-tufts outlined against the sky. These owls nest regularly in the Overton hills forest, a half mile south.—WALTER R. SPOFFORD, Nashville, Tenn.

NOTES FROM MURFREESBORO: A Barn Owl, perhaps a pair, are still making their home in a big hollow oak tree in the yard of Prof. George Davis at the edge of town. During a freezing night, the last of January, one evidently got very wet and the cold which followed froze the water on its feathers so that when it attempted to fly next morning it fell from the tree.—A Cooper's Hawk nest, visited last summer on July 11, was found to have grown to very large size due to additions made through a period of 6 or 7 years usage. Two young birds nearly ready to fly were found dead on the ground and partly eaten while two more were found dead in the nest. Probably some farmer had shot them.—A Florida Gallinule was forced down by a hard rain on the night of April 10, 1942, along with 5 Pied-billed Grebes. The latter were found helpless on the paved highways, which they had evidently mistaken for a waterway in the semi-darkness. They were banded and released on a pond.—A Blue Goose, which had been wounded and then captured from a small flock, on April 25, 1928, is still in possession of the farmer who captured it. When seen last month, it was still in good condition and is now at least 15 years old.—HENRY O. TODD, Murfreesboro, Tenn.

FOX CAPTURES PILEATED WOODPECKER: Mr. M. B. Sheppard, of Hartsville, Tenn., recently related to me an interesting occurrence where a grey fox captured an adult Pileated Woodpecker, in a tract of his "new ground." The bird it seems was digging into the base of a rotten stump for grubs, as they frequently do. At the time, the excavation was being made at about ground level. From the edge of the wood some paces distant, Mr. Sheppard saw the fox stealthily approaching his quarry. Whenever the woodpecker stopped to look about, the fox would stop also, partly hidden by grass and the old stump. Finally, after one such pause, the fox having approached to within a few yards, rushed swiftly forward, seized his prey and bore him off before Mr. Sheppard could come to the rescue.—HENRY O. TODD, Murfreesboro, Tenn.

CHAPTER MEETING DATES, OFFICERS, ETC.

NASHVILLE: Evening meetings are held the 2nd and 4th Mondays in each month, at 7:30 p. m., in the West Parlor of the Social-Religious Building of Peabody College. A spring field day will be held on Sunday, May 14, at some location close to Nashville. Prof. Robert Hawkins is president, Conrad Jamison is vice-president, and Dr. Katherine Anderson is secretary-treasurer.

MEMPHIS: Evening meetings are held on the 3rd Thursday of each month in the National Bank of Commerce Bldg. The spring field day has been set for Sunday, May 7th, probably at Raleigh Springs. Chapter officers are Mrs. Irene R. Daniel, president, Miss Mary Davant, vice-president, Miss Pauline James, secretary, and Lawrence Kent, treasurer.

Our KNOXVILLE chapter is having monthly outings at various nearby points of interest and is scheduled to take the usual spring bird census at the Island Home reservation on April 30th.

State officers for the T. O. S. will be elected by representatives from the various chapter at the Nashville field day of May 16. These officers will take office as of July 1, 1944.

NOTES, HERE AND THERE

Tennessee is to be entertained by two of our best lecturers on bird life during April and May, thanks to the Tennessee Department of Conservation and the National Audubon Society. The speakers will make addresses at Memphis, Jackson, Nashville, Chattanooga and Knoxville. On Monday, April 3, Edna (Mrs. Karl) Maslowski, is scheduled to make her Nashville address, entitled "A Naturalists Diary," in the War Memorial Auditorium at 8 p. m. Her talk will be illustrated by reels of the splendid color movies she has helped her husband to make. On Monday, May 15, Alexander Sprunt of Charleston, S. C., will deliver his Nashville talk, at the same time and place, and will bring with him some of the fine color films of bird life that have been taken for the National Audubon Society in its many refuges. Both speakers have been invited to arrive in Nashville a day early (on Sunday) so that local T. O. S. members may be able to take them afield.

The Starling is again the cause of complaints. Members seeing these black, sharp-winged birds, flying into their bird houses in early spring are apt to be recording them as Martins by mistake. Also, hearing and not seeing a spring arrival from the south is no longer a valid record until one has viewed the suspect and thus made sure it was not mimicry by a Starling.

While checking on the arrival of spring migrants, readers will find it of interest to compare their dates with the tabulation "Arrival of Spring Migrants at Nashville," for which see THE MIGRANT for March, 1936, page 6.

More than thirty sets of THE MIGRANT (1941-1943) have been received for binding, as per announcement in our last issue. There is still time to get in a few more sets under the contract price.

We have recently completed several files of this journal and would advise those who have been intending to do so to secure copies while they may still be had. That the price asked is reasonable may be realized by noting that some early volumes of our contemporary, THE CONDOR sell at ten and twelve dollars.

To our Knoxville chapter, we acknowledge with thanks a gift of ten dollars toward our publication fund.

THE MIGRANT

A QUARTERLY JOURNAL DEVOTED TO THE STUDY OF TENNESSEE BIRDS
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it is not necessary to go beyond it."*

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EDITORIAL

The war wears on and those of our young members who are in the armed services of our country, find the months growing into years. If spring finds them yearning to be back again in the green hills of Tennessee, we can assure them that those who remain behind are wishing them an early and safe return, to again take up the American way of life they left behind. Meanwhile however, there is an earnest task ahead and there can be no turning back short of victory. This applies also to those of us left at home who must do without many of the things that made life pleasant. The writer is tempted to mention the names of many of our active workers who are already overseas or nearly ready to go but lest he leave out some well deserving name, personal mention will be deferred until an accurate listing can be made.

In our next issue it would be timely to have notes covering the nesting season for by then, this interesting period will be well along. The finds described need not necessarily be rare ones, for the facts about all our birds and their nesting habits are ever new and varied. Round-the-year studies of some of our permanent residents is also an interesting and little worked field that some of our members could profitably take up. Such a study, for the Cardinal was published in our issue of March, 1941.

Lieut. Coffey was invited to review Mr. Lowery's report on Swift migration, in view of the fact that he has been our most assiduous student of this subject in Tennessee. His banding of this species at Memphis has extended over a period of ten years, during which time over 35,000 bands were placed there and numerous other birds trapped and examined. His work was interrupted by his entry into the armed service in June, 1942.

Many of our members, in the armed service and elsewhere, are "on the move" so much that their copies of THE MIGRANT are coming back to us undelivered. Please therefore keep our secretary, Mr. Clebsch, advised of any new address.

A new lot of 2000 T. O. S. bird listing cards has come from the printer and are now available for members. Since these were first gotten out, in 1916, more than 25,000 have been printed and used.

An author's index has been prepared for the 1941-1943 volumes and shows that there were 57 contributors to these issues. Copies may be had gratis, from the editor. Contributions for our June issue should be on hand by June 1.

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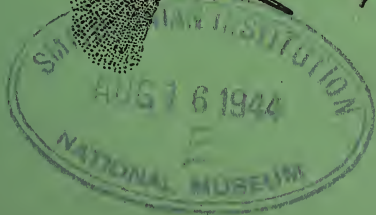
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Correction of omission and errata in THE MIGRANT for June, 1944

The Editor was chagrined to find that the lines printed below, concluding Mr. Behrend's interesting note in our last issue, had been left out.

MIGRANT readers will please insert the matter here printed, by trimming on the lines and paste the included slip at the middle of page 30.

Errata:—on page 29, line 39, change *Lake* to *Lark*, and below Mr. Behrend's article, change *Conecticut* to *Connecticut*. Thanks—A. F. G.

place later in the day, found that the late captive had apparently fully recovered and flown away.—FRED W. BEHREND, Elizabethton, Tenn.

CONNECTICUT WARBLER RETURNS:—In THE MIGRANT for June,

THE MIGRANT

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JUNE, 1944

No. 2

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SOME NESTING RECORDS FROM MURFREESBORO

By HENRY O. TODD

Definite nesting records of Tennessee birds are numerous in the pages of THE MIGRANT but are scattered thru many pages and years. Having specialized for a long time in the nesting phase of bird study, my record books give data on hundreds of nests found and examined, chiefly in this area, and gathered together thus, this data should prove useful for reference.* From the records mentioned I have selected those given below as being of special interest, either by reason of rarity, of local occurrence, of earliness of date, or of difficulty of finding. Numerous species of such common birds as Bluebirds, Mockingbirds, Flickers, etc., have been omitted from the list. The dates shown give definite information on the time of nesting and on stage of incubation, whether fresh, advanced, or at point of hatching, thus enabling the reader to apply a correction to the date of finding in order to ascertain the approximate date of beginning incubation. The number of eggs in each nest is next given and finally the locality. Unless specifically stated otherwise, the locality is in the vicinity of Murfreesboro, Tenn. The other localities mentioned have previously been described in these pages; such as Goose Pond near Pelham, 50 miles S.E., and Morrison, 35 miles S.E., (both in MIGRANT, 1935: 22-24), and H. and M. lake near Mt. Pleasant, 50 miles W.S.W., (MIGRANT, 1937: 21-22). Reference to previous nesting data, published by the writer in this journal, is given under the several species referred to and data for 1935 can be found in THE MIGRANT for 1935: 36 and 72.

PIED-BILLED GREBE.—May 1, 1939, eggs freshly broken. Nest floating in small pond near Morrison, Tenn.

GREEN HERON.—May 5, 1936, 5 eggs, incubation begun. May 3, 1936, 5 eggs, incubation begun.

AMER. BITTERN.—May 14, 1939, 4 eggs, inc. 10 days, Goose Pond.

LEAST BITTERN.—July 4, 1937, 4 eggs, inc. fresh, H. and M. Lake.

June 26, 1938, 5 eggs, inc. advanced, H. and M. Lake.

June 1, 1938, 3 eggs, H. and M. Lake.

BLUE-WINGED TEAL.—May 2, 1936, 8 eggs, inc. advanced, H. and M. Lake, nest 10' from water and 6' above in grass and had been found 2 weeks earlier. They also nested here in 1935.

WOOD DUCK.—May 14, 1939, 5 small young together, Goose Pond.

*NOTE: For a comparison of the nesting data given with that of Athens, Tenn., a point 110 miles a little south of due east, see MIGRANT, 1934: 1-4; and for the Johnson City area in Northeast Tennessee, see MIGRANT, 1934: 49-57.—Editor.

- TURKEY VULTURE.**—April 21, 1937, 2 eggs, fresh, 5 m. S. of town.
May 8, 1938, 2 eggs, inc. advanced, 8 mi. N.E. of town.
May 8, 1938, 2 eggs inc. advanced, 7 mi. N.E. of town.
May 2, 1943, 2 eggs, inc. begun, 6 m. E. of town.
- BLACK VULTURE.**—Feb. 19, 1939, 2 eggs, fresh, earliest date on record.
Feb. 27, 1938, 2 eggs, fresh, next earliest.
Feb. 28, 1944, 2 eggs, fresh, next earliest.
March 1, 1942, 2 eggs, fresh, next earliest.
The above are from more than 400 nest records.
The "peak" of the season is mid-April. See my article on this species in *THE MIGRANT*, 1938: 23-24.
- SHARP-SHINNED HAWK.**—June 27, 1937, 5 eggs, pipped, Craggie Hope in Cheatham Co. Returned later and banded the young.
- COOPERS HAWK.**—May 4, 1936, 3 eggs, inc. advanced.
For data on 7 nests in 1935, see *THE MIGRANT*, 1935: 36.
- RED-TAILED HAWK.**—April 5, 1936, 2 eggs, inc. adv., near Murfreesboro.
March 13, 1938, 2 eggs, inc. fresh, near Nashville.
- BROAD-WINGED HAWK.**—April 20, 1943, 2 eggs, inc. begun, 3 m. E. of M'boro.
April 28, 1941, 2 eggs, inc. begun M'boro.
- SPARROW HAWK.**—April 19, 1939, 5 eggs, in. adv., near Murfreesboro.
May 28, 1939, 5 eggs, fresh, Pelham.
- BOB-WHITE.**—June 8, 1936, 25 eggs, inc. advanced. (abnormal number.)
June 3, 1936, 14 eggs, fresh. (numerous other nests.)
- KING RAIL.**—May 1, 1939, 9 eggs, incub. begun, Morrison.
May 1, 1939, 7 eggs, inc. fresh, Morrison.
May 14, 1939, 12 eggs, inc. adv., Goose Pond.
May 30, 1943, 12 eggs, inc. adv., Murfreesboro.
- KILLDEER.**—March 2, 1936, 2 eggs, fresh, earliest of many nests.
March 4, 1937, 4 eggs, fresh, next earliest.
March 10, 1938, 4 eggs, fresh, next earliest.
- AMER. WOODCOCK.**—April 18, 1936, 4 young a few days old. Adult present.
March 31, 1938, 4 eggs, incub. advanced.
April 3, 1940, 3 eggs, fresh.
- YELLOW-BILLED CUCKOO.**—June 19, 2 eggs, incub. advanced.
- BARN OWL.**—June 24, 1942, 3 young, oldest fully feathered.
- SCREECH OWL.**—March 31, 1936, 5 eggs, inc. adv.—April 1, 4 eggs, inc. adv.—
April 25, 1936, 4 eggs, begun.—April 28, 1936, 4 eggs, adv.
- GREAT HORNED OWL.**—April 24, 1936, 2 young, fledging, in squirrel nest.
Feb. 21, 1938, 3 young and 1 fresh egg; young 1 to 7 days old.
Jan. 1, 1939, 1 egg (there were 2 on 1/8,) hollow oak 35' up.
Feb. 5, 1939, 2 eggs, fresh, in hollow of tree.
Feb. 4, 1940, 2 eggs, incub. advanced, in hollow tree.
Jan. 25, 1942, 2 eggs, nearly fresh, in hollow tree.
(For details of some of the above, see *MIGRANT*, 1939: 24-25.)
- BARRED OWL.**—Mar. 7, 1936, 2 eggs, fresh, 40' up, cavity of oak. (These birds laid again and on 5/24, 2 young were found.)
June 4, 1936, 4 young, perched on limbs by hole in oak.
- CHUCK-WILLS-WIDOW.**—May 23, 1936, 2 eggs, incub. advanced.
May 28, 1936, 2 eggs, incub. advanced.
June 8, 1936, 2 eggs, incub. advanced.

June 27, 1937, 2 eggs, addled, but bird sitting.

June 22, 1939, 2 eggs, fresh; doubtless a 2nd set.

NIGHTHAWK.—21 nests in 1936, the earliest being 5/6, 2 eggs. fr.; 5/8, 2 eggs, fr.; 5/12, 2 eggs, fr.; 5/3/1938, 2 eggs, fr.

RUBY-THROATED HUMMINGBIRD.—5/10/36, 2 eggs, fr.; 6/12/36, 2 eggs, fr., only 6' up; 6/12/36, 2 eggs, fr.; 6/10/38, 2 eggs, fr.

PILEATED WOODPECKER.—April 23, 1936, 3 eggs fresh.

April 20, 1935, 3 eggs, incub. 7 days.

April 24, 1937, 1 egg and 2 young, just hatched.

April 10, 1938, 4 eggs, incub. begun.

April 12, 1938, 4 eggs, incub. begun.

April 26, 1938, 3 eggs, incub. advanced.

April 28, 1940, 5 eggs, fresh.

April 12, 1940, 5 eggs, fresh.

April 11, 1943, 5 eggs, fresh.

April 14, 1943, 3 eggs, fresh.

RED-BELLIED WOODPECKER.—May 4, 1936, 3 eggs, fresh.

April 27, 1937, 3 eggs, fresh.

RED-HEADED WOODPECKER.—June 4, 1936, 5 eggs, incub. adv.

HAIRY WOODPECKER.—April 7, 1938, 4 eggs, fresh.

April 19, 1938, 4 eggs, incub. begun.

April 23, 1939, 3 eggs, incub. fresh.

CRESTED FLYCATCHER.—June 5, 1936, 2 eggs, fresh. This nest was unusual in that it was built in pile of fence lumber.

ACADIAN FLYCATCHER.—June 27, 1937, 3 eggs, fresh, near Nashville.

WOOD PEWEE.—June 3, 1936, 2 eggs, fresh.—June 12, 1936, 1 egg, fresh. A

Blue Jay's nest with young was 6 feet away.

TUFTED TITMOUSE.—May 6, 1936, 6 eggs, fresh.

MIGRANT SHRIKE.—May 9, 1936, 5 eggs, addled.

May 13, 1936, 6 young, nearly ready to leave nest.

WARBLING VIREO.—May 29, 1935, 3 eggs, fresh.

BLUE-GRAY GNATCATCHER.—Many nests found and about here they build chiefly in our tall, slender red cedar trees.

PRAIRIE WARBLER.—May 8, 1936, 4 eggs, incub. advanced.

COWBIRD.—For notes on its breeding here, see THE MIGRANT, 1936: 72.

GRASSHOPPER SPARROW.—May 12, 1936, 5 eggs, incub. begun.

May 14, 1936, 4 eggs, incub. advanced.

June 19, 1937, 2 nests with 4 eggs, incub. adv.

May 16, 1938, 5 eggs, incub. begun.

DICKCISSEL.—May 16, 1937, 2 eggs, fresh. (Only nest found here.)

LARK SPARROW.—May 8, 1935, 1 egg, fresh; nest later contained 5.

May 12, 1935, 5 eggs, incubation 3 days.

June 8, 1935, 4 eggs. (8 pair were located in 1935.)

May 24, 1936, 4 eggs, incub. adv.

June 2, 1936, 2 eggs, both freshly broken.

June 13, 1936, 4 eggs, incub. adv.

This species breeds only very locally in Tennessee.

MURFREESBORO, TENNESSEE.

STARLINGS FEEDING ON THE BACKS OF CATTLE

By CLARENCE COTTAM

S. E. Moreton, Jr.'s interesting note in the September 1943 issue of *THE MIGRANT* (pp. 54-55) concerning a large flock of Starlings (*sturnus v. vulgaris*) feeding on the backs of some 200 cattle near Brookhaven, Mississippi, deals with a subject that merits further discussion. This aberrance of Starlings has been noted in other sections of the country and in other lands. In Queensland and New South Wales, Australia, where the bird was introduced, it has been praised for preying extensively on sheep-ticks and sheep-maggot flies, which live on the backs of the sheep and cause great damage; the bird has also been condemned there for pulling wool from the backs of sheep. In New Zealand this adaptable and omnivorous exotic is reported to aid effectively in controlling the cattle-tick. In its native England the Starling has been praised for destroying larvae and adult horse-flies, cattle-and sheep-flies, and for feeding on ticks from the backs of sheep. From various parts of its range in the United States (Nebraska to the Atlantic coast), the bird has occasionally been observed feeding on the backs of cattle or other domestic livestock; until the winters of 1937 and 1938 such feeding caused only favorable comment.

The county agricultural agents of Chase and Comanche Counties of Kansas received reports from stockmen who claimed that Starlings were apparently probing for ox-warbles on the backs of cattle.¹ This would seem to be a beneficial habit; often, however, in probing for the grubs the birds develop a taste for raw meat and blood and continue to feed on the flesh of the live animal. Infection and loss of livestock not infrequently occur. In addition, damage is caused by stampedes resulting from the presence of flocks of the birds in the neighborhood of cattle previously attacked: this is a problem of considerable importance in livestock circles. Complaints of this nature have been investigated and verified in Kansas, Nebraska, Missouri, Oklahoma, and Texas.² One rather convincing report of Starlings pecking holes in the backs of live animals after branding, has been received.

Depredations upon cattle have been reported each winter since 1937, but such an unusual feeding habit seems to be restricted to those short periods of severe winter weather when snow and ice prevent the birds from obtaining their normal food. As soon as temperatures moderate and snow and ice cease to cover the ground, the birds return to their customary feeding habits.

Most complaints against the Starling are based upon: (1) their objectionable practice of roosting in large flocks on projecting surfaces of public or other buildings and in trees adjacent to sidewalks; (2) their direct attacks upon fruit or other agricultural crops, particularly cherries; and (3) their

¹Goodrich, A. L. Starling Attacks upon Warble-Infested Cattle in the Great Plains Area. *Journal of the Kansas Entomological Society*, 13 (2): 33-40. 1940.

²McCoy, John W. Injuries to Texas Cattle Caused by Starlings. *Veterinary Medicine*, 36 (8): 43-433. 1941.

Astle, N. L. Starlings Injure Cattle. *Veterinary Medicine*, 36 (4): 235. 1940.

Lake, E. W. Starlings Injure Cattle. *News Letter of Bureau of Entomology & Plant Quarantine*. VII, (5): 28. 1940. Processed.

habit of preempting native-bird nesting sites and thereby driving away these more valuable and attractive birds. Some complaints have also been registered against the bird for spreading diseases and parasites of domestic fowl and livestock, but most of these complaints have not been verified.

In its normal food habits, the bird is generally beneficial. Because of its great adaptability, omnivorous feeding habits, and excessive abundance, however, the Starling is decidedly more of a liability than an asset to this country. The bird will need close watching, as there is a bare possibility of its acquiring a carnivorous habit similar to that of Australia's Kea, which originally was not carnivorous. The Starling is a member of an old-world family of birds, several species of which feed on the backs of domestic stock and wild animals and occasionally become carnivorous.

U. S. FISH AND WILDLIFE SERVICE, CHICAGO 54, ILLINOIS.

NOTES ON THE BREEDING BIRDS OF THE NATCHEZ TRACE STATE PARK

By BEN B. COFFEY, JR.

Natchez Trace State Park and Forest is located in West Tennessee, about midway between Nashville and Memphis. It embraces 42,000 acres, of which 10,000 acres are reserved as a wildlife refuge. Beginning twelve miles north of Lexington, the area extends from within Henderson County northward into Carroll and Benton Counties, occupying the high ridge forming the watershed between the Big Sandy and Tennessee rivers. Most of the area lies between 500 and 625 feet above sea level.

The writer spent two days there, June 7 and 8, 1944, for the purpose of noting the bird life of a relatively small area, assumed to be typical. Since he was on foot, there was no chance of rapidly scanning or sampling the remainder of the area to check this. We alighted at a small train shed at Wildersville, 3 A.M., June 7, and waited for daylight. We then walked 7 miles to the Park Administration Building and most of the 3 miles to the cabin area at Cub Creek Lake (58 acres). Here we secured a very nice cabin and left our pack with shelter tent and other loads there.

At 9 A.M. we resumed, covering the area southwest and northwest of Cub Creek Lake. One narrow valley heavily wooded (principally red maple, with some gum and oak), was followed until an alder swamp forced us back onto the ridges. Here oak predominated, with some hickory, gum, and, noticeable in the undergrowth, sourwood. There was no pine here as at Chickasaw and Tishomingo State Parks except for groves set out in recent years. We cut over to a road leading north to Maple Lake (93 acres) but turned back that evening, a half mile from the lake without knowing it due to lack of a map such as we had at Tishomingo and to insufficient road signs at forks. For this reason the next morning we called off a hike to the remaining lake, Brown's Creek Lake (151 acres), and worked instead south-east and south of Cub Creek Lake. About 2 P.M., June 8, we left the Administration Building for Lexington, walking the road some 5 miles before getting a lift the remaining 8 miles. Altho hot, on the road, a fair list was made, and from the ridge the rolling woods to and beyond glistening Brown's Creek Lake were a treat to eyes recently accustomed to the western prairie.

A total of 61 species were listed in the park during the two days. The number of individuals listed is given with each and does not include those recorded in the 7 miles from Wildersville to the Administration Building. The most common species was the Red-eyed Vireo (62) which was distributed throughout. Next was the Prairie Warbler (40), followed by the Towhee (27), Field Sparrow (26), and Yellow-breasted Chat (25); these were chiefly recorded along the roads and ridges. The Wood Thrush (29) was found chiefly in the wooded ravines and lower areas. The Cardinal (23), Tufted Titmouse (25), Summer Tanager (24), and White-eyed Vireo (23) were common and well distributed.

Fairly common were the Mourning Dove (16), Chuck-will's-widow (12), Whip-poor-will (9), Blue-gray Gnatcatcher (17), Yellow-throated Vireo (17), Black and White Warbler (15), and Kentucky Warbler (14). Less so were the Turkey Vulture (7), Yellow-billed Cuckoo (6, also 5 enroute), Downy Woodpecker (8), Acadian Flycatcher (8), Wood Pewee (6), Blue Jay (9), Crow (7), Carolina Chickadee (6, probably much more common), Carolina Wren (7), Hooded Warbler (10), English Sparrow (10, cabins and lodge only), Goldfinch (6, and 2 enroute), Chipping Sparrow (10).

The remainder can be classed as rare or uncommon, but due to the limited field work we hesitate to say in each case which is the proper designation. GREAT BLUE HERON—On the road to Maple Lake we saw one overhead flying eastward, on June 7.

GREEN HERON—One seen at Cub Creek Lake, on June 7.

RED-TAILED HAWK—At 3 places on the 7th and 1 on the 8th; noisy.

BOB-WHITE—Two on way to Maple Lake; earlier, 6 were recorded enroute from Wildersville.

GREAT HORNED OWL—One heard, June 7, northwest of Picnic Area.

NIGHTHAWK—One flying overhead at 7:30 P.M. on June 7.

CHIMNEY SWIFT—Three on June 7, one the next day and 11 enroute.

The Lodge chimney was probably only available nesting site.

RUBY-THROATED HUMMINGBIRD—Three were seen, on June 7.

BELTED KINGFISHER—One at Cub Creek, June 7.

FLICKER—One seen on June 7 and 2 the following day.

PILEATED WOODPECKER—One listed, June 7.

KINGBIRD—One enroute from Wildersville and 2 in the Park.

CRESTED FLYCATCHER—Two on June 7 and 1 the next day.

ROUGH-WINGED SWALLOW—Five on June 7; a clay bank, a half mile from road to Maple Lake was the only available nesting site noted.

WHITE-BREASTED NUTHATCH—One, on the late afternoon of June 7.

BEWICKS WREN—One at Administration Building and 3 at farm dwelling west of cabin area. Also, 3 enroute.

BROWN THRASHER—Five found on June 7. Also, 3 enroute.

ROBIN—One on road from Maple Lake; perhaps a wandering bird.

BLUEBIRD—Two on the 7th and 3 next day. Also 5 enroute to the Park.

PROTHONOTARY WARBLER—Three at Cub Creek Lake on June 7.

WORM-EATING WARBLER—On June 8, in a ravine near the cabin area, a song like a Chipping Sparrow's, started me to stalking to verify the presence of this species. Only 1 was seen, my first personal June record.

BLUE-WINGED WARBLER—One each day, on June 7 and June 8.

PARULA WARBLER—Two heard singing on June 7 and 3 the next day.

CERULEAN WARBLER—Two were located on June 7.

LOUISIANA WATER-THRUSH—One found at Cub Creek Lake and 2 along the small branch that feeds the lake; June 7.

MARYLAND YELLOWTHROAT—Three on June 7, 1 on June 8, and 2 enroute.

REDWING—One at each end of Cub Creek Lake, also 3 near Wildersville.

ORCHARD ORIOLE—One on the 7th, 2 on the 8th and 2 enroute.

BALTIMORE ORIOLE—Only one recorded, June 7.

SCARLET TANAGER—A pair seen June 8, in cabin area, male singing. Probably 1 to 3 of the tanagers heard singing June 7, were of this species.

BACHMANS SPARROW—One each day, June 7 and 8; also heard enroute.

The following species were only recorded while enroute from Wildersville to the Park; Killdeer, 3; Purple Martin, 2; Mockingbird, 4; Meadowlark, 1; Bronzed Grackle, 1; and Cowbird, 3. In Lexington, 2 Catbirds were noted.

Natchez Trace State Park is about thirty-five miles northeast of Chickasaw State Park and seventy-five miles north of Tishomingo State Park (in Mississippi). In general, the lists of birds are similar. Pines at the two other parks attract Pine Warblers (uncommon) and Chipping Sparrows, plus, at Tishomingo, Bachmans Sparrows. The Towhee is apparently absent at both but is one of the most common species at Natchez Trace. This is in agreement with our map (MIGRANT, 1941: 53) but the number of records is more than expected. The Natchez Trace list in many ways approaches a Middle Tennessee list, including as it does a few Scarlet Tanagers, Blue-winged and Worm-eating Warblers, the Towhee common, and one species of the higher areas—the Whip-poor-will—fairly common.

The Whip-poor-will was the most unexpected species. About 8:15 P.M. June 7, we returned to the cabin, having walked 29 miles since leaving Wildersville at daylight. For this reason we decided not to linger along but to return, clean up, and eat, making a check on Chuck-will's-widows from the cabin, a suitable listening post. When the calling began, we soon realized that a Whip-poor-will was also being heard. So, taking a flashlight, we started out again, making a rough five mile circuit of that area from 8:45 to 10:15 P.M., and along the way listed 9 Whip-poor-wills as well as a dozen Chuck-will's-widows and a Great Horned Owl. Eighteen hours earlier, at the Wildersville railroad shelter, we had heard 4 Chuck-wills-widows, 2 Mockingbirds, a Cuckoo and a Chat, but no Whip-poor-wills for the later seemed confined to the high ridge country above.

FORT SILL, OKLAHOMA, June 25, 1944.

VERNACULAR NAMES OF TENNESSEE BIRDS

BY ALBERT F. GANIER

The following list of vernacular or nick-names of birds are those that have been found by the writer to be used locally for the better known Tennessee birds. The list does not include the ducks and geese since these have already been fully publicized by sportsmen. Most of the other birds not listed below are either now generally known by their proper names or else—as in the case of the majority of small species—are not recognized by any name. The name "Pewee" is often applied to any small unknown bird. Needless to say, nick-

names are rapidly giving way to proper ones and some of those listed here are practically obsolete.

Common Loon; Hell-diver
 Pied-billed Grebe; Di-dapper
 Cormorant; Nigger Goose
 Great Blue Heron; Blue Crane
 Amer. Egret; White Crane
 Little Blue Heron-im; White Crane
 Green Heron; Shite-poke,
 Fly-up-the-creek,
 Indian Hen
 Wood Ibis; Gourd-head
 Turkey Vulture; Turkey Buzzard
 Black Vulture; Turkey Buzzard
 Cooper's Hawk; Blue Darter
 Red-tailed Hawk; Rabbit Hawk
 Red-shld Hawk; Squirrel Hawk
 Duck Hawk; Bluff Hawk
 Osprey; Fish Hawk
 Ruffed Grouse; Pheasant
 Bob-white; Quail
 King Rail; Marsh Hen
 Purple Gallinule; Blue Rail
 Florida Gallinule; Blue Rail
 Amer. Coot; Mud Hen
 Killdeer; Kildee
 Wilson's Snipe; Jack-snipe
 Herring Gull; Sea Gull
 Least Tern; Striker
 Cuckoos (both); Raincrow
 Barn Owl; Monkey-faced Owl
 Screech Owl; Squinch Owl
 (Negro version of Screech)
 Great-horned Owl; Hoot Owl
 Cat Owl
 Barred Owl; Hoot Owl
 Chuck-wills-widow; usually
 confused with Whippoorwill

Nighthawk; Bull-bat
 Chimney Swift; Chimney Sweep
 Flicker; Yellowhammer
 "Yallerhammer"
 Pileated Woodpecker; Log Cock
 Red-bellied Woodpecker; Ladder-back
 Red-headed Woodpecker; Shirt-tail
 Sapsucker, Hairy and
 Downy Woodpeckers; Sapsucker
 Kingbird; Bee-martin
 Phoebe; Bridge Bird
 Rough-wing Swallow; Bank Swallow
 Barn Swallow; Fork-tail Swallow
 Purple Martin; Martin
 Blue Jay; Jaybird
 Tufted Titmouse; Tom-tit
 Bewick's Wren; House Wren
 Carolina Wren; House Wren
 Mockingbird; Mocker
 Brown Thrasher; Brown Thrush
 Wood Thrush; Brown Thrush
 Cedar Waxwing; Cedar-bird
 Shrike; Butcherbird
 All Vireos; Hangingbird
 Yellow Warbler; Wild Canary
 Prothonotary Warbler; Lettucebird
 Prothonotary Warbler; Wild Canary
 Maryland Yellowthroat; Ditch Wren
 Meadowlark; Field-lark
 Redwing (male); Blackbird
 Redwing (female); Ricebird
 Bronzed Grackle; Crow-blackbird
 Cardinal; Redbird
 Goldfinch; Wild Canary
 Towhee; Joree
 Junco; Snowbird

NASHVILLE, TENN., 2112 WOODLAWN DRIVE.

THE ROUND TABLE

NOTES FROM CORINTH, MISS.—In the middle of the Tennessee River, a quarter mile below Pickwick Dam, is anchored a buoy. About as big around as an ordinary barrel, it stands some two feet above the water level. On May 22nd, while fishing from the bank, I discovered on the buoy a Blue Heron. The river current was swift and strong and the buoy swayed in precarious angles as it tugged constantly at its anchor. For half an hour the heron rode the buoy, and was never once dislodged. At times when the buoy tilted and pitched almost beneath the water, I expected to see the tall and graceful bird thrown off; but each time it hung on with apparent ease. So it seems that herons, like monkeys and squirrels, and both the young and old ones of the human kind, love to ride dizzy-dipping devices where more or less danger lurks.

For years almost without number I have been looking for a Cape May Warbler. My efforts were rewarded on May 6th, when I found the bird at Waukomis Lake, near Corinth. Identification was easy as the little fellow, a male, took lots of time out from his foraging, and preened himself while perched on a limb plainly visible, though the surrounding foliage was dark and thick, and located in a small creek bottom. All of my bird books indicate that the Cape May is a real find for almost any searcher after the bird kind.

On the same trip to Waukomis, very late in the afternoon, I found my second Loon of the season. Twice he gave his weird cry before I realized whence the sound came. At first I thought it was the shrill cry of a domestic Peacock, for the similarity is indeed striking. The other Loon was found at Liddon Lake in April, a body of water that seems attractive for these big black divers. I find one or more there each season.

On June 11, a friend called and wanted to know if I had ever seen a white blackbird; he had just seen one in a woods lot near town. I went out immediately and found it—an albino Bronzed Grackle—apparently fully mature and ranging in the woods with others of its kind, including fledged young of the year. Its plumage was of buffy-white all over, the legs were medium grey and its bill yellow. I could not get close enough to see its eyes.

On June 8, I found a Prairie Horned Lark in Hardin Co., Tenn., just over the State line and where I have found them for two summers past. The dates indicate that they nest there.—BENJ. R. WARRINER, *Corinth, Miss.*

EASTERN LAKE SPARROW AND UPLAND PLOVER IN WESTERN TENNESSEE:—On June 30, 1943, I noted two Eastern Lark Sparrows in the area that the Tennessee Valley Authority was clearing near the mouth of the Big Sandy River in preparation for the impoundment. Because of the lateness of the season it is probable that the birds were spending the summer in this section of the State. I observed these birds on a number of occasions during one afternoon.

On the evening of April 14, 1944, about 4 miles north of Perryville, I noted a single specimen of Upland Plover in a pasture near the west bank of the Tennessee River. When I approached within about 15 feet of it, the bird flew perhaps 50 yards and again proceeded to feed. I watched the bird for about 15 minutes.—CLARENCE COTTAM, U. S. Fish and Wildlife Service, Chicago, 54, Illinois.

THE SEASON AT OXFORD, MISS.—During the period March 15 to May 15 temperatures averaged above normal, cloudy and rainy weather was the rule, and strong southerly winds predominated. Only during the last week of the period was there a let-up in the wind and rain. Partly due to weather conditions, time spent afield was again restricted, so that representative migration dates are lacking for many species. Following are the more significant spring arrival dates:

March 13, Chimney Swift (students); March 18, Rough-winged Swallow, Sycamore Warbler; March 25, Blue-gray Gnatcatcher, Black and White Warbler, Louisiana Water-thrush; March 29, Yellow-crowned Night Heron, Sora, Lesser Yellowlegs, White-eyed Vireo, Grasshopper Sparrow; April 1, Yellow-throated Vireo; April 5, Wood Thrush, Hooded Warbler, Yellow-throat; April 8, Chuck-will's-widow (Dr. Nichols); April 9, Red-eyed Vireo, Cerulean Warbler; April 11, Kingbird, House Wren, Catbird, Yellow-breasted Chat, Orchard Oriole, Summer Tanager; April 12, Baltimore Oriole; April 13, Crested Flycatcher; April 14, Blackburnian Warbler; April 15, Yellow Warbler; April 18, Tennessee Warbler; April 19, Wood Pewee, Olive-backed Thrush, Worm-eating Warbler, Indigo Bunting; April 21, Warbling Vireo; April 22, Nighthawk; April 23, Gray-cheeked Thrush, Blackpoll Warbler; April 29, Short-billed Marsh Wren (also wintered), Rose-breasted Grosbeak; May 6, American Egret, Forster's and Black Terns, Least Flycatcher (in song and seen again on following day); May 10, Mourning Warbler and Least Sandpiper.

Representative departure dates are: March 29, Mallard, Fox Sparrow; April 1, Phoebe; April 9, Brown Creeper, Golden-crowned Kinglet, Slate-colored Junco; April 11, Song Sparrow; April 23, Marsh Hawk, Purple Finch; May 6, Pipit (second local record), Nashville Warbler, Black-throated Green Warbler, Palm Warbler; May 8, Myrtle Warbler; May 10, Blue-winged Teal, Barn Swallow, Scarlet Tanager, Savannah Sparrow, White-crowned Sparrow, White-throated Sparrow; May 13, Rose-breasted Grosbeak; May 15, Tennessee Warbler; May 16, Magnolia Warbler; May 17, Yellow Warbler, Lincoln's Sparrow; May 18, Redstart (in town).

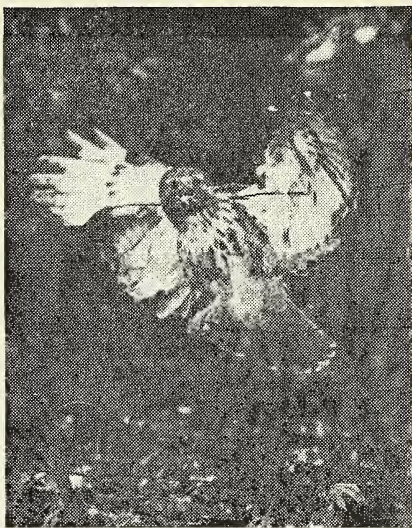
Pine Siskins reappeared on April 28 and were last recorded on May 6. Breeding records will be dealt with in the next report.

The ornithology class held its spring field day on May 6—at the height of migration—and listed 104 species of birds.—HENRY M. STEVENSON, Dept. of Biology, U. of M., University, Miss.

BALD EAGLES IN HUMPHREYS COUNTY:—The *Clarksville Leaf-Chronicle* of April 8, contained an account of an eagle having been brought to town by Mr. Russell Gray of that city, the latter having found it dead in the road just north of Waverly. The bird was said to measure 7 feet 1 inch from tip to tip and to have dark brown plumage. The finder reported that what he believed to be another eagle was observed flying about overhead.

The writer communicated with Mr. Gray, giving a description of both the immature Bald and the Golden Eagle. As was expected, he received a reply that the bird had an unfeathered tarsus and was therefore an immature Bald Eagle. This bird (or birds) was probably a wandering young one that had not as yet established a nesting territory.—ALBERT F. GANIER, Nashville, Tenn.

HAWK ENSNARED BY A WIRE FENCE:—The first snow of the season was falling in light flurries when on a bleak November morning my companion and I hiked the Appalachian Trail along the Tennessee-North Carolina state line west of Sam's Gap, located about half way between Johnson City and Asheville. We stopped abruptly when coming upon a large bird apparently sitting among the meshes of a wire stock fence. Approaching with caution we were astonished that the bird—a Red-tailed Hawk—did not leave its perch. However we were soon able to see that it had gotten hopelessly entangled in the meshes and was quite unable to extricate itself. We pictured that it had been flying swiftly near the ground in pursuit of quarry—perhaps a rabbit—and thus intent upon the chase, had flown into the fence meshes with outstretched wings. The bird's head, breast and one leg went thru but the wings could not follow and remained on the other side, as will be seen by the accompanying photo. Had we not come along it would doubtless have starved to death or been killed by some other predator.



We extricated the wild, hostile creature with some difficulty and by way of reciprocity, it grabbed the front of my companion's boots with such strength and tenacity that the camera tripod had to be brought into play to pry the strong talons aloose. We continued on our hike and passing the

CONNECTICUT WARBLER RETURNS:—In *THE MIGRANT* for June, 1943, the writer described the finding for four years past, of Connecticut Warblers near his home during their spring migration northward. The records for 1943, were on May 12, May 16 (four), and May 19 (two). This warbler has so rarely been recorded in Tennessee that this year I kept on the lookout to see if they would again tarry in this particular habitat. On the morning of our T. O. S. Field Day, May 14, I found at least two singing males at the previously described localities. Much similar territory was covered by our members on that day, five miles away, but no Connecticuts were found. On May 19, Dr. Spofford came out in the early morning in order to learn their song, found one, and heard it sing repeatedly close at hand. The following afternoon, Mr. Ganier came out and together we found one, a female, near the wet-weather brook. That morning a male had sung near my house and presumably the same individual was heard to sing on the mornings of May 21 and May 22. Although several of our members have tried to find them in similar habitats near Nashville, so far they have been unsuccessful.—B. H. ABERNATHY, Hobb Road, Nashville 5, Tenn.

DICKCISSELS IN EAST TENNESSEE:—The Dickcissel is listed (Ganier, *Distributional List of Birds of Tenn.*, 1933) as a very rare summer resident in East Tennessee. It seems interesting therefore to note the presence of a pair in Greene County, from May 15 to June 20, 1943. They frequented a field divided between oats and clover; the male sang from the roadside electric line wire. No nest was found but between the dates mentioned they must surely have been nesting. On June 20, the last date on which they were seen, both seemed disturbed as the oat field was cut. Perhaps their nest was destroyed by the operation.

I am indebted to other T. O. S. members for additional East Tenn. records of this species as follows: Mr. Walker writes that he found one of these birds near Maryville in June and Messrs. A. F. Ganier and Alfred Clebsch, while driving eastward from Sweetwater, found one near there on June 18, 1944.—RUTH REED NEVIUS, Route 1, Greeneville, Tenn.

SPRING MIGRATION AT NASHVILLE:—The following records are taken from my notes to cover a number of species that arrived a little earlier or at about their average time for Nashville. March 20, Vesper Sparrow, flock of 25; March 25, Blue-gray Gnatcatcher and La. Water Thrush; April 8, White-eyed Vireo; April 10, Yellow-throated Vireo, Yellow Warbler and Catbird (unusually early); April 12, Red-eyed Vireo; April 13, Crested Flycatcher, Orchard Oriole, Summer Tanager, Hooded and Magnolia Warblers, and Upland Plover (4, with 2 Killdeer in Bellemeade); April 17, Solitary Sandpiper; April 20, Nighthawk; April 21, Kentucky Warbler and Chat; April 23, Blackpoll Warbler, Olive-backed Thrush and Yellow-billed Cuckoo.—Dr. W. S. Spofford reported the following: April 2, Pine Siskins, a flock of about 60 with Goldfinches; April 15, Whip-poor-will; April 22, Blackburnian, Cape May and Golden-winged Warblers, and April 23, Scarlet Tanager.—Mr. Ganier reports that the North Nashville marsh held water until the last of May and that among the birds found there were Blue-wing Teal, April 15 (4) and April 29 (2); Coot, April 29 (4); Lesser Yellowlegs, April 15 (2); Solitary Sandpiper, April 15 (6); Wilson's Snipe, April 29 (2), and May 6 (3); King Rail, April 29 (1 at nest), and May 6 (1); Sora, April 29 (6), May 6 (7), May 13, all gone; Amer. Bittern, May 6 (1) and May 13 (2); Prairie Marsh Wren, April 22 (1), April 29 (3), and Least Flycatcher, April 29 (1 collected).—Early nests found by me, with first egg of the season, were Dove on March 28; Cardinal, April 6; Cowbird, April 23 (quite early); and Bluebird, 2 nests with eggs hatching on April 4.—AMELIA R. LASKEY, Nashville, Tenn.

NOTES ON RUFFED GROUSE:—In THE MIGRANT of March, 1941 p. 12, John Caldwell tells of some of the habits of the Ruffed Grouse on the Cumberland Plateau of Tennessee. In a conversation with him later he described the natives method of hunting them which he also had used with success. This method was to find likely places for them in the woods, such as laurel thickets along little streams, and listen to hear the grouse walking on the leaves. In dry weather, the sound was readily audible to keen ears. A pair presented to me for specimens, were shot by him on Dec. 30, 1939, near Monteagle. Their crops were stuffed full of fresh dogwood berries. The two skins were identified by Dr. John W. Aldrich as the Appalachian Ruffed Grouse (*Bonasa umbellus monticola*), a new race first described by W. E. C. Todd in THE AUK for 1940, p. 392.—ALBERT F. GANIER, Nashville, Tenn.

NOTES AND NEWS

MEMPHIS SPRING FIELD DAY:—The Memphis Chapter of the T. O. S. held its Spring field trip on May 7th. Many regular attendants were absent, most of them in the armed forces. For the first time in the history of the chapter we had no representative of the Coffey family; Lt. and Mrs. Ben Coffey, Jr., being at Fort Sill, Okla. Mr. A. F. Ganier of Nashville and Mrs. C. A. Barfield of Norfolk, Va., were out of town guests. Though we have lost some of our most ardent ornithologists to the services, the fortunes of war have brought us several outstanding members. Among them are Sgt. and Mrs. J. Southgate Hoyt, formerly of Cornell University, and Pfc. Mac Evans of Texas.

A new territory was covered this year beginning at the end of the Lauderdale bus line on Bodley and extending along Nonconnah levee and thence across the fields to Riverside Park. Because of high water, shore birds were almost entirely missing. The count for the day was low, due perhaps to the absence of an early party that usually searched the remote edges of the route before meeting the party at the starting point. Ninety-two species were listed. Among the rarer birds were four Painted Buntings, two Canada Warblers, two Swainsons Warblers, twenty-two Fish Crows, a Red-breasted Nuthatch and a Pine Siskin, the last two being regarded as late dates. The party witnessed a beautiful flight exhibition by a pair of Mississippi Kites over the cotton fields and of another pair over the park. Dickcissels and Grasshopper Sparrows were common in the fields and migrating Savannah Sparrows were abundant. During the late afternoon, one group saw a flock of thirty Nighthawks going north and another group, going north of Memphis, found hundreds of Bob-o-links. The Wilsons Warbler was not recorded on the seventh but was found the following day on the M. C. S. campus by Miss Pauline James.—MARY DAVANT, Memphis, Tenn.

THE NASHVILLE SPRING FIELD DAY was held on May 14, 1944, on Mr. Gus Morrow's "Harpeth Valley Farm," 12 miles southwest of Nashville. Here the Little Harpeth River winds about the base of the classic Harpeth Hills that form the scenic landscape one views from Edwin Warner Park, a mile away. Immediately upon branching off from the Hillsboro Road, the listing began with numerous birds on every hand and within the half hour it took the late comers to arrive and to make ready for the hike, nearly fifty species of birds had been entered on the listing cards. Dividing into groups, large and small, the fifty-five participants meandered down the stream, then up thru the wooded pastures, over old stone walls, past an ancient homestead and finally to the bluegrass-clad summits among the flowering locust trees. Here a Red-bellied Woodpecker flew to its nest cavity, a Red-tailed Hawk reconnoitered overhead, and a Pileated sounded his resonant call from the beech woods further on. Down on the slope, a Hairy Woodpecker entered his nest, drilled in the dead stub of a big locust. On a cedar-clad hillside, a Black Vulture sitting on top of a dead tree, caused one nestwise group to investigate further and they were rewarded by finding a downy "chick" within the hollow stump of an old oak. Rough-winged and Barn Swallows were observed skimming the fields in the valley and nests of the latter were found in the big barn. At one o'clock, the group reassembled for lunch and

to conduct a business meeting, including the election of State officers for the T. O. S. This and other business being concluded, the composite list was made up, subject to such further additions as would be made during the afternoon's foray. Transient warblers were notably scarce, although at this date they are well past the peak of their abundance. Perfect weather, a congenial crowd and a picturesque hunting ground, made the day a pleasant one for all who attended.—ANON.

KNOXVILLE SPRING FIELD DAY:—On April 30, the Knoxville chapter held its spring field day as usual at the Island Home Bird Sanctuary, to list the birds present at this riverside location. Visitors from Kingsport, Johnson City, Elizabethton, Gatlinburg, Oak Ridge, Crab Orchard and Nashville, represented 8 of the total attendance of 49 who were present. The weatherman provided excellent weather—fair and warm—and the observers took advantage of it by remaining afield from sun-up until after dusk. Foliage and vegetation were generally a week ahead of their average condition at this date but despite this fact, the warbler migration was very weak, as evidenced by their scarcity in species and especially in numbers. The day was also marked by the lack of water-birds and birds of prey. The only hawk seen was too high for positive identification and was not included in the listed total of 94 species. Our average for recent years is approximately 101 species and the all time high found on any spring field day is 112. Perhaps the most interesting record of the day was a Black-crowned Night Heron which was found in the early morning at the head of the island. The bird had been seen a few times prior to this date by H. P. Ijams but was observed on the census by Paul and William Yambert.—W. M. WALKER, 201 E. Peachtree St., Knoxville, Tenn.

ELIZABETHTON SPRING FIELD DAY:—The highlight of activities during the past quarter was the spring bird census conducted on May 7. Inclement weather, with an early morning temperature of 38 degrees and swiftly moving low clouds after an all night steady downpour (higher altitudes on Roan Mountain and in adjacent North Carolina registered snow), did to some extent affect observations during early morning hours but apparently had no effect on the final results. The participants were 8 in number, including guests Messrs. W. F. Pearson and Thomas W. Finucane of Kingsport and J. A. Worth of Johnson City, whose valuable assistance was greatly appreciated. Divided into three groups, those participating covered a fairly comprehensive territory, which included the Doe River vicinity upstream from the covered bridge, Lynn Mountain base and slopes, the swampy woodland on the northern bank of the Watauga River east of town, and the scenic stretch of Watauga River from South Watauga to the stone quarry at the river bend near Rio Vista.

At mid-day the group repaired to the home of the president, Dr. Herndon, where lady members of the club served a substantial lunch. Following this, the listing afield was resumed and was continued until dusk and the resulting list then compiled showed 92 species for the day. Nineteen members of the warbler family were recorded, as follows: Black-and-white, Blue-winged, Blackpoll, Black-throated Green, Canada Cerulean, Chestnut-sided, Cape May, Hooded, Kentucky, Maryland Yellowthroat, Myrtle, Parula, Palm, Pine, Yellow, Amer. Redstart and Louisiana Water-thrush.

On earlier trips along the Doe and the Watauga, our members have found Shoveller and Baldpate Ducks, Black-crowned Night Heron, Woodcock and Osprey. The last mentioned has been seen on several occasions, including May 7, and there is a possibility that it may be nesting along the Watauga.—FRED W. BEHREND, 406 Broad St., Elizabethton, Tenn.

ELECTION OF OFFICERS, TENNESSEE ORNITHOLOGICAL SOCIETY

At the annual meeting of The Tennessee Ornithological Society, held at Nashville, on May 14, 1944, the following officers were nominated and elected to serve for the year beginning July 1, 1944: President, Prof. George Davis, State Teachers College, Murfreesboro; Vice-President, East Tennessee, Wm. Johnson, Route 4, River Road, Knoxville; Vice-President, Middle Tennessee, Walter R. Spofford, Vanderbilt Medical School, Nashville; Vice-President, West Tennessee, Miss Mary Davant, Cossitt Library, Memphis; Editor-Curator, Albert F. Ganier, 2112 Woodlawn Drive, Nashville; Treasurer, Alfred Clebsch, P. O. Box 164, Clarksville; Secretary, James A. Robins, Vanderbilt University, Nashville.

Mr. Clebsch, who has so ably served us up to now in the dual role of Secretary-Treasurer, requested that the duties of Secretary be passed to other hands due to added responsibilities he has had to take over. He has kindly agreed to continue as Treasurer.

Professor Robins, who has been a T. O. S. member for many years, will take over his duties at once. He will endeavor to increase our membership as well as to bring about a closer coordination of the work of our several chapters.

All officers of the year just closed were voted the Society's thanks for their appreciated services.

For the Committee on Nominations
By G. R. MAYFIELD, Chairman.

Many have remarked on the apparent decrease of Red-headed Woodpeckers during recent years. We would like to hear from our members what their observations have been regarding this and also, what might have caused a decrease.

Our Memphis members usually record the first Purple Martins each season. Bert Powell of that city writes to say he recorded his first one on March 4. Scott Hutchison writes that he saw his first Martin there on March 6 and that three were first seen to visit his martin box on March 13. They returned the following day and roosted in his box that night. A few days later he counted 10 at the 30 room box. On March 30, he saw 12 at the large box, 7 at a 10 room box and 1 at a one room box that a Flicker had roosted in.

We are now unable to supply complete sets of volumes 2 to 5 of THE MIGRANT until we can get in some out-of-stock copies issued 1931 to 1934. For several issues we will pay a dollar apiece or will apply that amount on future dues if preferred. We particularly need the March 1934 issue. Members having odd copies of any of these early issues which they may not want, will please drop a card to the Editor.

THE MIGRANT

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PUBLISHED BY THE TENNESSEE ORNITHOLOGICAL SOCIETY

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*The simple truth about birds is interesting enough,
it is not necessary to go beyond it."*

PLEASE NOTIFY THE SECRETARY OF A CHANGE IN ADDRESS

A NEW T. O. S. CHAPTER AT ELIZABETHTON:—We are happy to welcome a new chapter in extreme northeast Tennessee, the group having completed its affiliation during May of this year. To Dr. Lee Roy Herndon, for a number of years a member of the Buffalo, N. Y. Ornithological Society, we understand goes credit for having taken the initiative earlier this year by organizing the group as the Elizabethton Bird-life Study Club. At this writing, membership consists of 16 active and associate members, predominantly beginners. The officers are: President, Dr. Lee Roy Herndon; Vice-President, Mrs. Fred W. Behrend; Secretary, J. C. Browning; Treasurer, Mrs. Henry W. Scott; Statistician, Dr. Hugo Doob, Jr., and Historian, Fred W. Behrend. Regular indoor meetings, at the residence of members, are held the first and third Friday of each month. Field trips are scheduled for the first and third week-end of each month. Since the inception of the organization, field trips in the Lynn Mountains, Watauga River and Doe River areas, we learn have revealed some interesting results. Roan Mountain is close at hand and will no doubt receive future attention. Our new chapter has a most interesting field for its activities and we wish its members many years of increasing activity.

SUMMER BIRDS OF MONTGOMERY BELL STATE PARK:—On May 27 and 28, 1944, a list of the breeding birds of this 4,000 acre upland area, 33 miles west of Nashville, was made by A. F. Ganier, G. R. Mayfield and H. S. Vaughn. A twenty-four hour period, beginning at 4 P. M. on the 27th, was devoted to the listing which consisted of sampling all types of areas. These areas were woods, old fields and the shores of two artificial lakes. Separate card lists were made out for each area covered, for future comparison. A total of 65 species were listed and the total number of individuals were estimated at 1,000, for the portions covered. Ten members of the warbler family were found, as follows: Black-and-white, Blue-winged, Cerulean, Hooded, Kentucky, Parula, Prairie, Sycamore, Maryland Yellowthroat, and Louisiana Water-thrush. It is planned to repeat the census next summer, after which the composite list will be prepared for publication.—EDITOR.

A lack of suitable manuscripts have delayed this issue. If copy for next number comes in promptly, the September issue will be out on time. Both long and short articles on Tennessee birds are solicited from all T. O. S. members.

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September
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Birds in Tennessee. Issued in March, June, September and December

WINTER HOME OF CHIMNEY SWIFTS DISCOVERED IN NORTHEASTERN PERU

By BEN B. COFFEY, JR.

Although the banding of Chimney Swifts (*Chaetura pelagica*) has the same general objectives as the banding of other species, probably every Swift bander has hoped, more or less secretly, perhaps, that one of his banded Chimney Swifts would turn up in some out-of-the-way place and thus give us a clue as to the winter home of the species. The writer has been no exception in this respect but after banding more than 35,000 at Memphis, Tennessee, over a period of twelve years, it did seem that a report of this nature was past due.

On the first of August, 1944, I received from the Fish and Wildlife Service at Washington a few of their brief, form notices of recoveries of banded birds. Glancing thru them for items of special interest I suddenly realized that staring me in the face was the notice of the long hoped for event. Going thru them again more calmly I learned that not one but *five* of our banded Swifts had been captured the previous winter in far away Peru, approximately 3,000 miles from the place of banding. The notice, which had been transmitted thru the Department of State from the American Embassy at Lima, stated that bands from thirteen Swifts altogether had been turned in and that they were reported killed during December, 1943, on the River Yanayaco in Peru. Thru correspondence with other banders and with the Fish and Wildlife Service, our Editor developed the following tabulation as the complete list:

Band No.	Locality of Banding	Date Banded	Bander
38-21419	Tenn., Memphis	10- 4-37	B. B. Coffey, Jr.
39-95532	Tenn., Memphis	9-21-38	B. B. Coffey, Jr.
39-96804	Tenn., Memphis	9-21-38	B. B. Coffey, Jr.
40-57724	Tenn., Memphis	10- 8-39	B. B. Coffey, Jr.
40-82881	Tenn., Memphis	10-13-40	B. B. Coffey, Jr.
39-71442	Tenn., Nashville	8-31-38	J. B. Calhoun
39-83055	Tenn., Nashville	9- 5-38	J. B. Calhoun
140-44267	Tenn., Nashville	10-13-40	A. R. Laskey
37-108787	Ala., Opelika	10- 3-36	H. S. Peters
38-169645	Ga., Macon	9-17-39	R. J. Fleetwood
239-12620	Ill., Lake Forest	8- 8-39	P. E. Downing
139-36718	Conn., New Haven	5-24-40	H. L. Hutchins
38-87399	Ontario, Kingston	5-19-40	R. W. Smith

None of the Memphis birds had been captured at any intervening date.

The one banded in 1937 was in at least its seventh year, and had made the long round trip to South America at least seven times. (The one banded by Mr. Peters exceeded these figures by one.) The two banded at Memphis in 1938 were fully adult birds and when killed were at least six years old. The others may have been immature birds of the season, for during October it is difficult to differentiate.

A study of the locations of original banding and years involved develops further conclusions. If all of the birds discovered in Peru had been banded in or near Memphis, it might seem that the Yanayaco River location was the winter home of the particular lot that were in the habit of passing thru Memphis. On the contrary, the makeup of the Peruvian flock was highly mixed and had come from or thru all the scattered points shown in the above table. We may therefore conclude that this wintering location is a popular rendezvous for Swifts originating anywhere within their breeding range. Dr. F. M. Chapman and others had predicted that this general region would be found to be their winter home, not only because other regions had been searched by ornithologists but because "the presence as permanent residents of five species of *Chaetura* shows that the region (Amazonia) offers a favorable habitat for birds of this genus." With tropical vegetation, summer warmth because of proximity to the Equator, and under such conditions an abundant insect life to provide food, one can see that the Swifts have here found what to them must be a real vacation land wherein to while away the months that lie between the annual tasks of rearing a brood.

One might well wonder why they feel the desire to fly thousands of miles northward each spring to breed. Perhaps it is because the rainy season there (May to September) would prove inimical to young Swifts striving to reach maturity, perhaps they may weary of the eternal summer of a tropical latitude, perhaps again the pungent atmosphere of soot-aged chimneys in which they first drew the breath of life lures them back. But more likely it is because the great and irresistible migratory urge comes upon them as it does upon so many species of birds, and mobile as they are, impels them to carry out the great journey back to all parts of eastern North America to procreate their kind.

MEMPHIS, TENN., AND FORT SILL, OKLA., September, 1944.

BANDING TERMS:—Most Swift banders classify as **FOREIGN BIRDS** those which they find among the individuals they have trapped which were banded at some distant banding station. When the original bander is notified of this, he sets it down in *his* records as a **RECOVERY**. Birds which a bander has previously banded and which return to him at some later season are listed as **RETURNS**. Such birds captured during the *same* season are listed as **REPEATS**. Birds picked up dead or otherwise reported by non-banders (because such finders do not keep records) are always some bander's **RECOVERY**.

MORE ABOUT THE CHIMNEY SWIFTS FOUND IN PERU

By ALBERT F. GANIER

Lieut. Ben B. Coffey, at the time of preparing the preceding article, was also making ready to be transferred from Fort Still to another place of service and thus occupied, requested the writer to secure such additional information as might later become available. Accordingly, he directed correspondence to various governmental departments and individuals with the following results.

A letter addressed to Secty. Cordell Hull of the U. S. Dept. of State and referred by him to his Division of Foreign Service brought the following response, dated August 14: "In reply to your letter of August 9, 1944, referring to the banded chimney swifts reported by the American Embassy at Lima, Peru, you are advised that the birds are reported to have been killed by Indians on the river Yanayaco, which is located in the region between the Putomayo and Napo rivers.

"The bands were transmitted to the American Embassy at Lima by a student in the Library School of the National Library, who was given them by a friend, who in turn was presented them by the Indians. In view of the many persons involved, the Department feels that an attempt to secure more definite information on the subject would be futile." There was also appended a list of the bands returned.

It seemed, however, that a matter of such ornithological importance should not be dropped without further effort to ascertain just where and how the birds were taken, how many, and what other information might be procurable. He therefore at once directed an airmail letter to the American Embassy at Lima, requesting our Consul there to call in the student mentioned and to secure from him the information desired or to request that he secure it. A reply, dated August 31, was duly received and in which the only information proffered was that "A copy of your letter has been forwarded to the American Vice Consul at Iquitos, Peru, with the request that he make the inquiries indicated in your letter, as persons from the Putomayo and Napo Rivers call at that port fairly frequently." Since this procedure promised to lead nowhere, the writer again addressed a letter to the Embassy at Lima, to renew his request that the student be found and the information at first requested be elicited. It was pointed out that unless this clue was followed, probably all further information on this lot of 13 Swifts would be lost forever. At date of going to press, no reply has been received but we will give the results of this correspondence in our next issue.

The Yanayaco River not being shown on any detailed maps of Peru that were available, the writer addressed a letter to Dr. Gilbert Grosvenor of the National Geographic Society asking that he give us the exact location of the stream. In Dr. Grosvenor's absence, Chief Cartographer J. M. Darley courteously replied and marked the location upon a map that had been enclosed. A reproduction of this map is shown in the center of this issue, it having been traced from the Geographic Society's fine sheet map of South America. Mr. Darley referred to it as the *Yanayacu* River.

Dr. F. C. Lincoln of the Fish and Wildlife Service had been written to on August 8 to request that he inform us of the origin of the five Swifts

not banded in Tennessee, but he being very busy at the time with other matters was unable to give the information requested until three weeks later. He also advised us that he had prepared a formal announcement to be published in *The Auk*, in order to give it the widest possible circulation. In deference to our worthy contemporary, and to Dr. Lincoln for his efficient prosecution of bird-banding activities, this issue of THE MIGRANT is being held until the October *Auk* comes off the press.

Meanwhile, a round of correspondence had been going on between banders of Chimney Swifts, with the result that most of them came into possession of the entire list in a surprisingly short time. No bird news in a generation seems to have stirred so much interest among them and all were wanting to have further details that might be procurable. In an effort to develop more information, books descriptive of the region were studied as well as articles in various periodicals, and these enable the following to be presented:

The Yanayacu River is one of several tributaries to the Napo River which, being joined further down by the Marañon, the Javari and the Putumayo, form the River Solimoes or upper Amazon. There are no railroads or highways in all this great region, the only traffic being by steamboats along the rivers. The only town of any size is Iquitos, with a population of 34,230; it is located on the Amazon and has an elevation of only 380 feet above sea level. Ocean going ships are said to wend the 2,400 mile journey, up the great sluggish Amazon River, to this port where they take on cargoes of rubber, quinine, tobacco, and other products. Iquitos lies approximately 60 miles southward from the Yanayacu where the Swifts were found. All this region is relatively flat, heavily forested, and has a voluminous rainfall. Of large trees there are an abundance, and these in time die, some become hollow and therefore available for Swifts to roost in. Except for small plantations along the rivers, the country is still in a primitive state and but thinly inhabited by tribes of savage Indians, who still depend upon bows and poisoned arrows. Among the tribes are the Javari "head hunters," whose most prized trophy is the head of any enemy with the skull removed and the flesh pickled and shrunk to the size of one's fist. This is the hinterland of Peru, "The Montana," isolated from the Pacific Coast by the rugged, arid Andes and almost hopelessly distant from the Atlantic Ocean.

Some distances may be of interest. The Yanayacu valley lies approximately 200 miles south of the Equator and 500 miles east of the Pacific Coast. It lies 900 miles S.S.-W. of the Panama Canal, 2,900 miles S.S.-W. of Nashville, Tennessee, measured on a straight line and 3,200 if measured on a curved line via Yucatan and Central America. Assuming that Swifts nesting in New Brunswick winter in this area, these individuals make the longest flight, for they have 4,600 miles to go or more than 9,000 miles for the round trip. Not many of our North American birds go south of the Equator to winter; most of them stop considerably short of it.

While it is not known as yet just how these birds were killed by the Indians, and in fact this may never be known, a reasonable conjecture would be as follows: The wilderness, of course, containing no chimneys, such as they use while with us, the Swifts would have to resort to primitive roosting conditions immediately upon arrival. These might be hollow trees, or upon the outside bark of large trees, or in caves, or upon the face of vertical cliffs. Because of the relatively low altitude of the region reported, it is

unlikely that cliffs would be available. Caves would probably be overgrown with tropical growth and therefore unfitted if available. Upon the bark of trees, they would be subjected to attack by nocturnal predators and exposed to the frequent rains reported there, although our winter is not their rainy season. This leaves the hollow tree roost as the one most practicable, and available of course because of the limitless forests.

Further substantiation of the theory that the recovered birds were roosting in a hollow tree when taken may be deduced from the relatively large number of bands brought in. These banded birds were what banders usually classify as "recoveries," that is, Swifts banded at some other station and re-trapped by another bander at a distant point. A tabulation of such recoveries from four of our banding stations show that for every one of these banded birds found, an average of 400 are found without bands (Coffey 1: 452, Calhoun (2) 1: 431, Lowery 1: 338). This average should hold for Peru as well, and under that assumption 13×400 or approximately 5,200 Swifts must have been killed in order to secure 13 bands. This number is often found roosting in one chimney. Assuming again that they were all killed at one time, by what means and in what sort of roost could the Indians have killed so many? No charge of a double-barreled shotgun could have been so deadly. However, had the birds been observed going to roost in a hollow tree, it would have been relatively easy for the Indians to have built a smudge fire in the base, thus suffocating them and causing them to come down enmasse.

There is, of course, the possibility of more than one roosting tree having been found and its occupants destroyed, once it had been found that some Swifts wore bands. There is also the possibility that these bands may have been accumulated over a period of several years, perhaps delivered to and held in awe by some chieftain or "medicine man" and finally brought in to the settlements. It will be noted that none of the bands were placed later than October, 1940. The possibility of developing the full story is alluring and worthy of further effort. The details may develop soon or perhaps never, as to this lot of 13 Swifts, so meanwhile we may have to be content with the above conjectures unless someone can come forward with better ones.

NASHVILLE, TENN., 2112 Woodlawn Drive. Sept. 1944.

SWIFT BANDING IN CANADA:—One of our corresponding members, Mr. Irwin Sturgis, of Lexington, Missouri, who has been spending his summers at Blind River, Ontario, on the north shore of Lake Huron, manages to band a number of Swifts there in the early fall before he returns to Missouri. Since this is the most northerly banding point (see map), we requested Mr. Sturgis to give us his totals by years and he has kindly furnished these as follows: 1938- 1,483; 1939- 735; 1940- 935; 1941- 726; 1942- none (roost deserted before banding was attempted); 1943- 693; 1944- 1,193; 7 year total 5,765. From these figures, we can gauge their relative abundance at this northerly margin of their range. At his home in Missouri, he has banded about 8,500 since 1934 and is in a strategic position there to gather some particularly interesting data. In addition to operating the furthest north Swift banding station, we believe that the one at Lexington is the most westerly.

WINTER RECOVERY OF A NASHVILLE CHIMNEY SWIFT

By AMELIA R. LASKEY

"Chimney Swift No. 140-44267, banded Oct. 13, 1940 at Nashville, Tenn. Killed December 1943, River Yanayaco, Peru . . . 12 other banded Swifts were killed on the same date in the same locality."

Aside from regret that the birds were killed, the above notice from Washington, D. C. (received recently) is the fulfillment of a Chimney Swift bander's dream, a first actual record of this species in their winter home in South America. For many years, bird banders have worked diligently in various sections of North America, trapping and banding many thousands of these fast-flying birds, each hoping one of his bands would lead to solving the mystery of their migration journey. It took 7 years, the handling of 35 flocks, comprising 28,412 birds for us to achieve this single record.

There is much that is not glamour in Chimney Swift work. It meant many miles of travel over the entire city and suburbs, evening after evening, hunting roosting flocks, much time seeking permission to work at the various places, then preparation for the actual work which often kept me busy until midnight, only to arise at 3 a.m. to get the volunteer workers to the roost by daylight. The work is dangerous as many chimneys were high. My 40 ft. extension ladders on the roof set the height limit. We banded on roofs of buildings, in alleys, on fire escapes, and other unconventional places, often spending the entire day working with one flock. Although "chimney sweep" is the vernacular name for the species, that name, judging by our sooty appearance, was far more appropriate for us.

Starting in 1937, Arthur McMurray, William Simpson, Francis Lawrence, Leo Rippey, and Conrad Jamison, at that time high school students, worked faithfully with me through the years. A salute to these young men! It was their intrepid courage and physical stamina that made the banding possible. At various times during this period, others were of great assistance: Steve Lawrence, J. B. Calhoun, Carl McMurray, H. C. Monk, Harold Seligman, Irving Wolfe, John Pritchett and some who participated in a single banding.

All through the winters, it was necessary for me to spend unbelievable numbers of hours working on the records, identifying the 2,878 returns of Nashville birds, the 245 recoveries of Swifts banded outside Nashville, making duplicate cards for Washington and my own file, and sending off reports of the 24,006 birds that we banded.

In 1938, John B. Calhoun conducted several bandings in Nashville, the same group working with him. The 13,033 Swifts banded under his permit bring the grand total banded in Nashville to 37,039. The 13 returns of 1937 birds, his 30 recaptures of "foreign" birds, and his 1,065 repeats bring the grand total of Chimney Swifts handled in Nashville to 43,553 in the years of 1937 through 1942 when banding of this species was necessarily discontinued on account of war restrictions.

The accompanying map (plate 4) will give an idea of the numerous places in the United States and Canada where Nashville-banded Swifts were found in later years. It will also be seen where birds retaken in Nashville had been banded.

The Peru Chimney Swift, No. 140-44267, was one of a flock of more than 5,000 that had gone to roost in a 19 ft. chimney in downtown Nashville; the three story building, formerly the Duncan Hotel, is occupied by the Colored Y. M. C. A. That October day five of us worked on the roof from dawn until after dark, with several others coming for parts of the day.

In that flock was an unusual find, a Swift with a small, very soiled and frayed roll of paper suspended from a leg. Although scarcely legible, I deciphered it to be a request to write Chas. Post, Route 1, Tomah, Wis. In an attempt to learn when the note had been attached, I immediately wrote, but twice mail was returned unclaimed. A letter to the Postmaster of Tomah brought this response: "We have made every effort to locate the party in question but without any results. About 10 years ago there lived in this locality a Post family but they have removed and left no address at this office." In 1939, we trapped two Chimney Swifts that had been banded 9 and 11 years previously and we are wondering if this 1940 individual could have carried the tiny scroll during ten years of migrating back and forth from its South American wintering place.

There was still another Swift in that flock that made a bit of history, for, so far as I have been able to learn, published records of these fast, erratic-flying birds being taken by hawks are very rare. A pair of Sparrow Hawks (*Falco sparverius*) appeared about 8 A. M. perching on nearby roofs, watching as the Swifts were released one by one after banding. A pair had occupied the business district for sometime, individuals having been seen on various buildings in town and a female, in sooty plumage, was caught early that summer in a building four blocks south of the building where we were trapping. I banded her June 5.

For an hour or more, the Falcons watched, making occasional unsuccessful sorties after a Swift. Then we noticed one Swift, that had just been tossed into the air, zig-zagging and dodging with a hawk in close pursuit above the street intersection and into the next block. The flight appeared to have covered some five hundred feet with the Swift gaining no altitude, when it was grasped in the talons of the hawk who dropped to a roof momentarily with the quarry, but rose to fly several hundred feet to the fire escape of a building, several stories above ground, to consume it. Twice later in the day, one of the pair appeared but we did not witness another capture. It is doubtful if they could catch a Swift under ordinary circumstances.

T. E. Musselman witnessed the capture of a Chimney Swift by a Sharp-shinned Hawk (*Accipiter velox*) in Quincy, Ill. (Bent 1940, Bull. 176:284). At almost dusk, a flock of 1,500 were circling and dropping into a roosting chimney when the hawk flew from a neighboring tree to the chimney top and seized one of the Swifts as it was poised with upturned wings ready to drop into its night's sanctuary. The squeals of the Swift made it possible to follow the course of the hawk back to the tree. Here also the hawk took advantage of the slowed flight.

GRAYBAR LANE, NASHVILLE 4, TENN.

MAPS SHOWING CHIMNEY SWIFT MIGRATION

The maps reproduced on the following pages relate to the migration of the Chimney Swift. Plate 5, in the center of the book, shows the point of recovery of the 13 Swifts in Peru with relation to their original points of banding. The latter are listed by Mr. Coffey in his article on the first page. Assuming that these birds on their southward migration converge to the vicinity of Baton Rouge, La., before crossing the Gulf, radial lines have been drawn to that point. From there to Peru, the journey may be assumed to approximate the curved line passing thru Yucatan and Central America. The insert map shows in more detail the exact location in northeastern Peru where the Indians captured the Swifts.

Plate 4, on the preceding page, shows the results of Chimney Swift banding at Nashville, Tenn., as described in the article by Mrs. Laskey. Of the birds banded at Nashville and found dead, re-trapped, or otherwise recovered at distant points, there have been 138 to date. This does not include 79 re-trapped at the nearby Clarksville station, 40 miles northwest. Correspondingly, there have been trapped at Nashville stations, 149 birds that had previously been banded at distant stations and 160 from the Clarksville station. Such recapture of birds banded by others are referred to as "*Foreign Recoveries.*" In studying the map, it is of interest to note that Florida is not represented and there are but few places represented in the South-east. Most westerly recoveries are from Texas (3), Kansas (1), Minnesota. Canada is surprisingly well represented, including three from Minnesota (2). Canada is surprisingly well represented, including three from Quebec, while far off New Brunswick and Nova Scotia are represented by 1 and 2 respectively. (See list of similar maps, p. 5 of March issue.)

The last map shown, plate 6, has been prepared to show evidence that the spring route northward appears to come up the east coast of Mexico and thence thru eastern Texas instead of trans-Gulf, as seems probable in fall. It is of particular interest to note that the 37 recoveries in Texas were all recorded during the spring and *none* were reported during the fall. These spring records range from April 9 and April 18 to May 26 and May 28. Spring recoveries reported to several banding stations indicate that such returns for other Gulf states are not so numerous as those from Texas. In addition to banded birds recovered, observers at Brownsville (Merrill, 1878), Austin (Simmons, 1925) and in Oklahoma (Nice, 1931), report Swifts passing in some numbers during spring migration. Still other evidence is at hand which indicates that many Swifts which pass southward between the Appalachian mountains and the Mississippi river, pass northward in spring to the west of that stream. We are indebted to the U. S. Fish and Wildlife Service for most of the Texas records shown.

A further argument in favor of the land route northward from Central America is, that during April, a trans-Gulf water crossing would subject migrating Swifts to the possibility of meeting northerly winds and rains, with probably disastrous results. The land route would enable the birds to halt, turn back, or seek a roost at night if storms or cold were encountered. In Bent's Life Histories, all of the seven Swifts reported north of Honduras thru Mexico, were taken during the early spring. The spring route needs to be studied in much greater detail and further observations are needed from eastern Mexico, eastern Texas and from the states adjoining.—A. F. G.

SOME HABITS OF THE CHIMNEY SWIFT

By W. M. WALKER

In spite of the fact that the Chimney Swift (*Chaetura pelagica*) is one of our common birds, very little is known about them by the average person because of the fact that their habitat is high above the earth rather than near the ground. Perhaps for this reason too it has developed into a very different kind of a bird, structurally and otherwise, from the species we usually contact. If there is such a thing as an "unearthly" feathered citizen among us, it is the Swift, for he lives his long life thru without ever touching his feet to the ground. The following review has been prepared to give something of this bird's outstanding characteristics, traits and its life history generally, particularly as they apply to Tennessee. References to articles published in THE MIGRANT are given in the text thus, (M—:—), while a list of others is appended.

Range:—This is given by the A. O. U. Checklist as follows: Breeds from central Alberta, southeastern Saskatchewan, Manitoba, southeastern Quebec, and Newfoundland, south to Florida and the Gulf coast, and west to east-central Montana and eastern Texas. Winters south of the United States, probably in Amazonas, Brazil; common spring transient in Haiti and reported from Mexico and Central America. Accidental in New Mexico, Greenland and Bermuda.

Migration:—The spring migration of the Chimney Swift will vary from year to year because the bird is forced through necessity to wait for warmer weather in order to find sufficient food. Swifts appear earlier in the western and middle portions of the State than in the mountainous section of the east. The twelve earliest arrival dates for Nashville, from 1915 to 1935, varied from Mar. 25 to April 3, with the average date of April 2 (M 7:7). Records from Athens (1903 to 1909) give arrival dates from Mar. 29 to April 12 with April 4 as the average (M 6:3). The average arrival for Knoxville which is north-east of Athens is April 10 for an eight year period. The spring migration is not so impressive because their numbers have doubtlessly decreased and the birds have separated into small flocks by the time they have moved as far north as Tennessee.

The gregarious instinct asserts itself toward the latter part of August at which time the Swifts congregate in larger and larger numbers and the fall migration is a general southward movement. Flocks of 1,000 and 2,000 are common while counts from Memphis indicate it is not rare for 5,000 to 7,000 individuals to roost in one chimney (M 9:82). The migrating population is underestimated even by the average person interested in ornithology. The writer and some fellow banders went into the various sections of Knoxville one evening in late September and located four chimneys used as roosts. Each flock was estimated to contain 1,500 to 2,000 birds. The fall migration generally extends from Sept. 1 to Oct. 15 or 20 altho a few late records have been reported from Nashville, as late as Oct. 29 to Nov. 7 (M 8:85).

Roosting Habits:—We often see and read of birds that have adapted themselves to changing conditions and thus have increased instead of decreased in numbers. That Chimney Swifts at one time roosted in hollow trees is confirmed by Audubon when he related his visit to a large hollow sycamore

near Louisville, Kentucky, in 1840. J. A. McLaughlin describes a roost (M 14:19) in the deep woods of middle Tennessee, in a large Tulip tree. This was "just after the Civil War." S. A. Weakley found an item in the Clarksville, Tenn. *Leaf-Chronicle* under the date of June 12, 1875, stating that 506 Swifts were killed by two men after they had felled a large sycamore tree the preceding month (M 12:76). As early as 1808 however the Swifts shift to chimneys was far advanced.

Man inadvertently supplied this species with a new roosting and nesting place, viz. chimneys. In one instance however small numbers of Chimney Swifts were found roosting against the bark of a big tree (see note on a following page) and on others in barns (Bent '40). Descriptions of the large flocks going to roost are frequently given in the literature, therefore details of the procedure will not be undertaken here. The birds have been noted flying in both clockwise and counter-clockwise circles, in figure 8s, as a funnel-shaped mass or as an inverted cone. The fact that once the ingress has started the birds enter the chimney very rapidly (an estimate of 10 to 15 per second is frequently given) is particularly true of large flocks, and during this maneuver the birds are not apparently disturbed by the presence of people or strange objects. Coffey relates rolling back the cover of a trapped chimney to allow approximately 800 more Swifts to enter (M 7:96).

Many a bander has mentally selected an accessible chimney and hoped the birds would roost there. We think the Swift is partial neither to the easily reached nor to the inaccessible chimney but selects instead an airvent or an open chimney where the rising air supplies oxygen in warm weather and warm air on chilly nights. Birds have been known to enter chimneys from which a little smoke was issuing. And on cool rainy days an emerging flock occasionally feed for a short time and reenter the chimney. When the birds enter the chimney at night the first ones alight about five or six feet below the opening. The other birds settle lower until the mass extends deep into the interior. Occasionally the topmost swifts are within three feet of the mouth of the chimney. At times the birds in the chimney will pack up and be two or three layers thick, each bird with its head under the wing of the one above it.

Nesting.—The nest of this species has been found in places other than chimneys. There are a few records where a bird used a hollow tree, a well, a cistern, or a silo, while nests, especially in Maine, have been found inside of houses, barns, and other structures. The nest is a half-saucer-shaped platform made of twigs, first fastened to the chimney and then stuck together, with dried glutinous saliva of the bird. The Swift obtains the nesting material by flying against the outer branches of a dead tree or limb and breaking off a very small twig with its feet. Sometimes two or three attempts are necessary before a stick is secured.

Normally, four or five elongated, moderately glossy white eggs make up the set and incubation extends from 18 to 22 days (Forbush). Only one brood is raised a year and in Tennessee, the eggs are usually laid the first week in June. The shells of the eggs are thick and the membranous lining is unusually strong; this prevents them from breaking in the hard unlined nest.

The young are born naked and blind but have acquired quite a few feathers at seven days and by the fourteenth day their eyes are wide open.



MAP SHOWING CONVERGENCE AND DISPERSAL OF
CHIMNEY SWIFTS Banded AT NASHVILLE, TENNESSEE.

— SYMBOLS USED ARE —

- NASHVILLE Banded SWIFTS RECOVERED ELSEWHERE.
- BANDING STATIONS WHOSE SWIFTS WERE RECOVERED AT NASHVILLE.
- ⊙ A COMBINATION OF THE ABOVE TWO SYMBOLS.

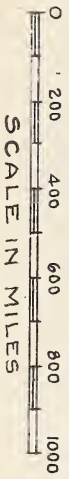
BANDING STATIONS PROVIDING MORE THAN ONE OF
EITHER OF THE ABOVE KINDS OF RECORDS ARE AS FOLLOWS:

A- Baton Rouge, La.	19 of ● and 12 of ○	L- Beloit, Wisconsin,	0 of ● and 5 of ○
B- Memphis, Tenn.	1 " ● " 20 " ○	M- Lake Forest, Ill.	1 " ● " 3 " ○
C- Clarksville "	79 " ● " 160 " ○	N- Charlottesville, Va.	1 " ● " 12 " ○
D- Knoxville "	1 " ● " 7 " ○	O- Charleston, W. Va.	0 " ● " 3 " ○
E- Glasgow, Ky	1 " ● " 20 " ○	P- Columbus, Ohio	0 " ● " 2 " ○
F- Madisonville, "	1 " ● " 5 " ○	Q- New Boston, Ohio	0 " ● " 2 " ○
G- Opelika, Ala.	0 " ● " 2 " ○	R- Ithaca, N. Y.	0 " ● " 2 " ○
H- Milledgeville, Ga.	2 " ● " 0 " ○	S- Blind River, Ontario	1 " ● " 16 " ○
I- Macon, Ga.	3 " ● " 0 " ○	T- London "	0 " ● " 3 " ○
J- Lexington, Mo.	0 " ● " 4 " ○	U- Kingston "	1 " ● " 15 " ○
K- Fairfield, Iowa	0 " ● " 3 " ○	V- Toronto "	2 " ● " 0 " ○

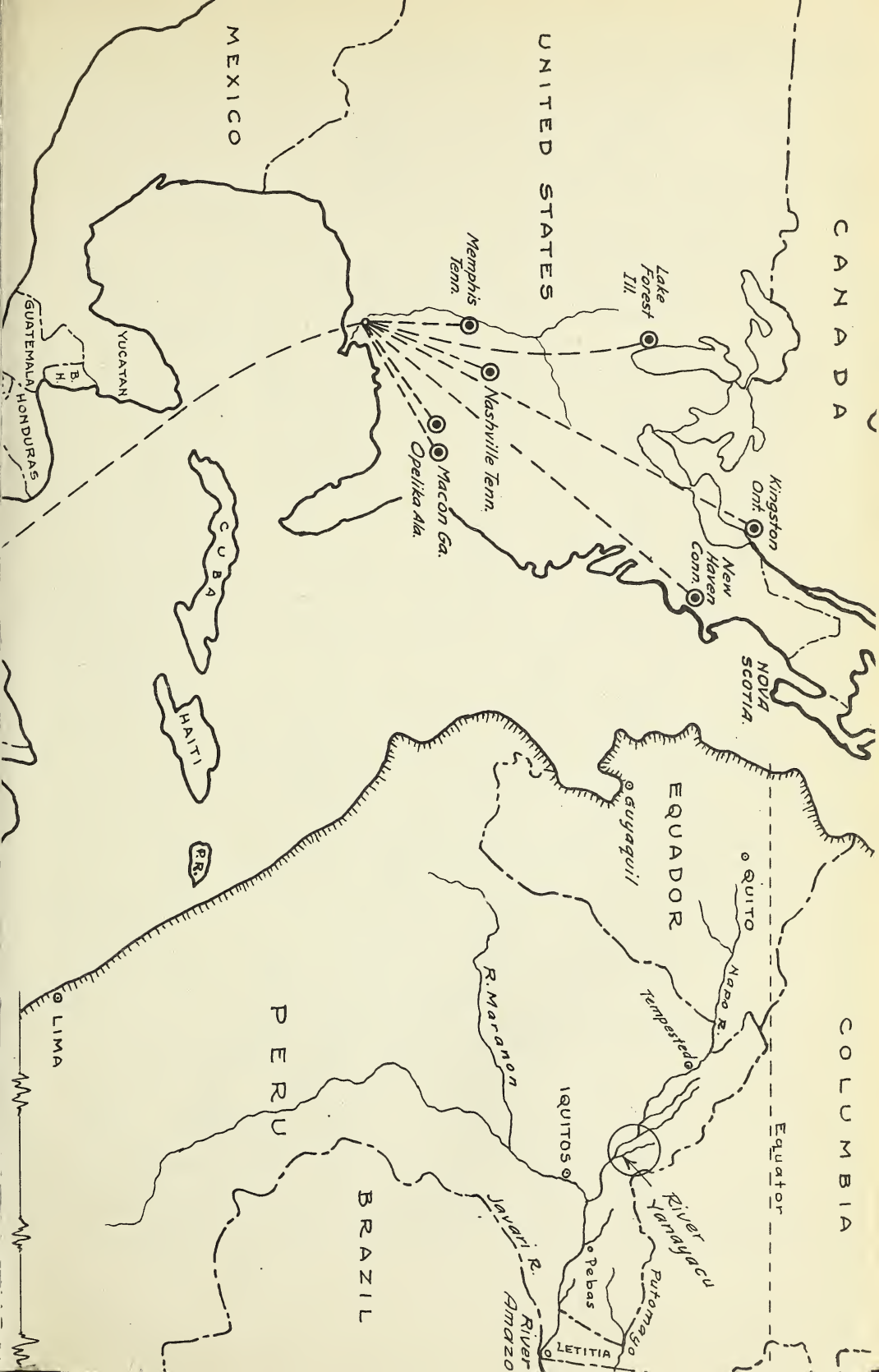
Plate 5

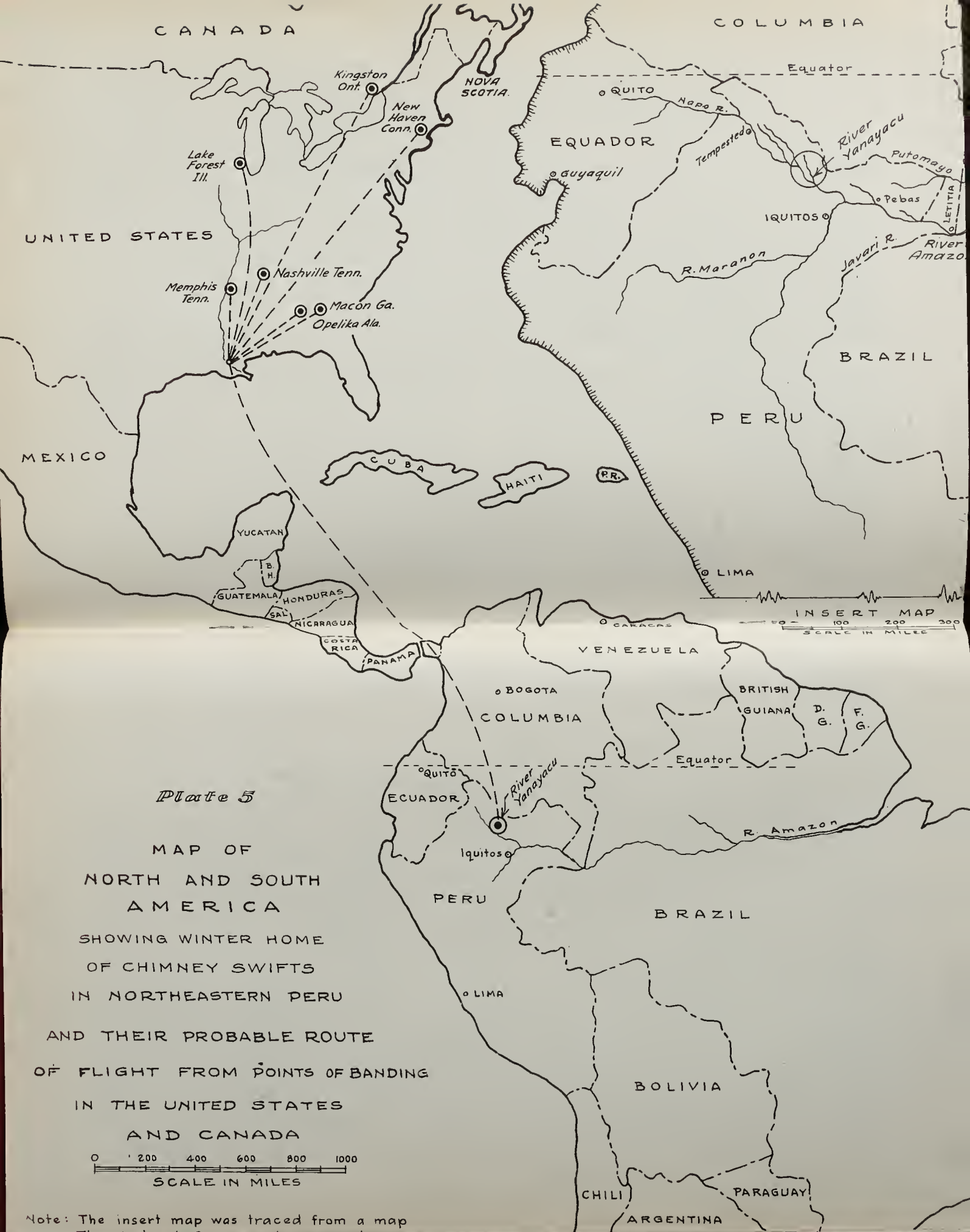
MAP OF
NORTH AND SOUTH
AMERICA

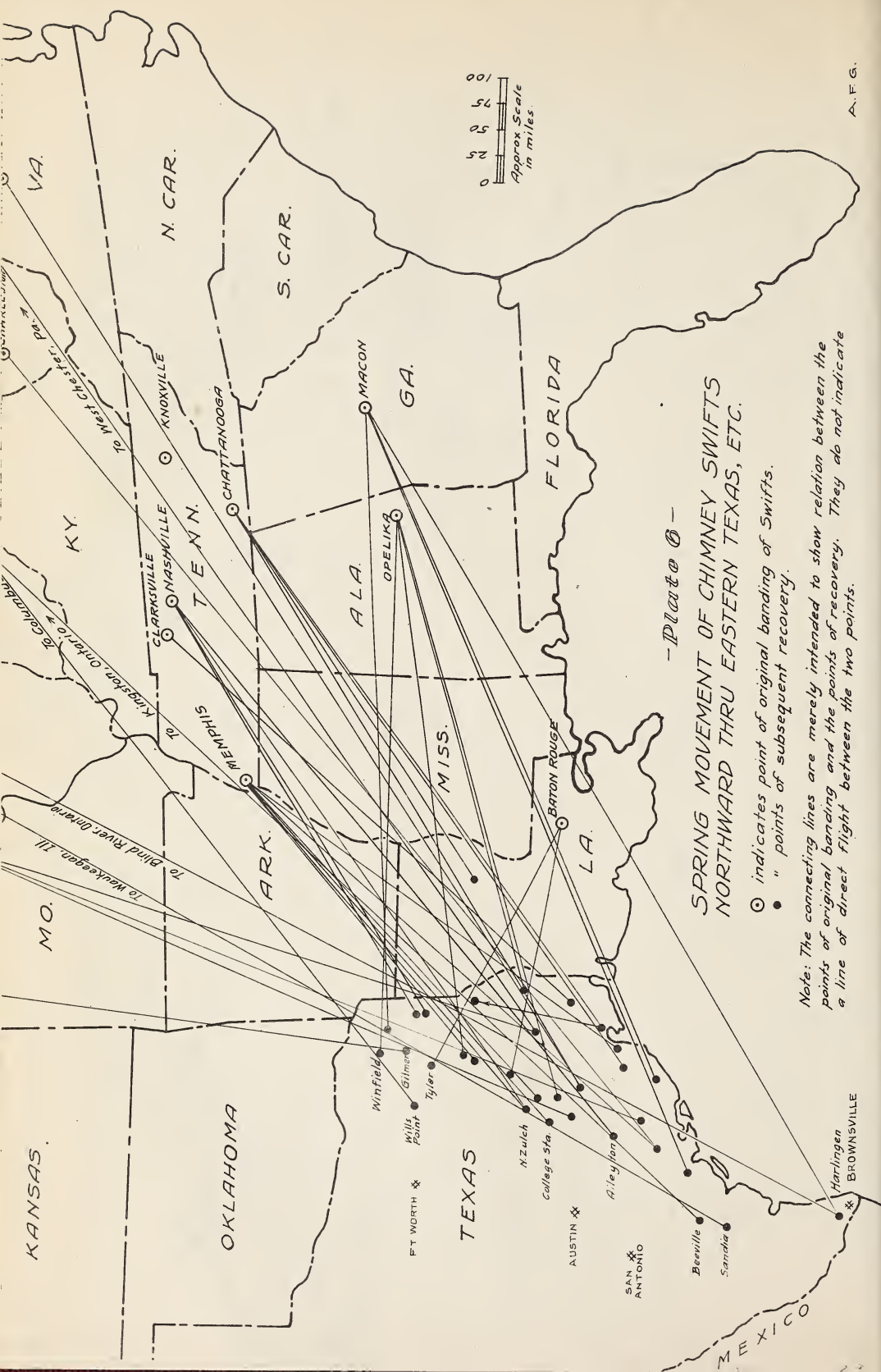
SHOWING WINTER HOME
OF CHIMNEY SWIFTS
IN NORTHEASTERN PERU
AND THEIR PROBABLE ROUTE
OF FLIGHT FROM POINTS OF BANDING
IN THE UNITED STATES
AND CANADA



Note: The insert map was traced from a map
in The National Geographic Magazine







-Plate B-
 SPRING MOVEMENT OF CHIMNEY SWIFTS
 NORTHWARD THRU EASTERN TEXAS, ETC.

- indicates point of original banding of Swifts.
- " points of subsequent recovery.

Note: The connecting lines are merely intended to show relation between the points of original banding and the points of recovery. They do not indicate a line of direct flight between the two points.

Both parents help in the big task of rearing the hungry brood. The young receive from one to three feedings, by regurgitation, at each visit of the adult bird and this routine does not always cease at dusk but is often continued into the night. Sometimes the parents crowd their offspring out of the nest before these young are completely feathered but the little birds can shift for themselves and cling to the under side of the nest or the walls of the chimney with ease. During the last week in the chimney the birds vibrate their wings and flutter up and down the chimney for hours at a time all in preparation of that first flight which presumably will last without resting until dusk. Thus ends their four to five weeks of confinement and begins their life as an adult.

Structure:—There are certain features about the Chimney Swift that are worth noting. Their narrow wings are longer than the body, the shoulder muscles are well developed, the feet are small and weak, the short tail feathers are tipped with spines to aid them in clinging to the chimney or wall on which they roost. Then too, the mouth of this bird is large, which enables it to catch insects while flying. In the spring at the beginning of the nesting period, the salivary glands are greatly swollen but soon after the nest is completed the glands return to normal size thereby providing a cheek pouch in which to hold the captured insects. A casual inspection of a Swift reveals large and prominent eyes situated high on the head. This evidently enables the bird to maintain a larger field of vision when it flies open-mouthed through the air. The Swift is songless or practically so and the calls may be described briefly as a twittering with variations and a squeak or a loud harsh squeal of fright.

Feeding and Flight:—The Swift is correctly named if its speed of flight is any criterion. It is said it can out-fly and evade even a Duck Hawk and that these birds rarely attempt to capture one. Except for cool rainy days in the spring or fall the Chimney Swift is on the wing from morning until night and there are instances where the birds have been observed feeding around the bright lights of a city, as late as 11 P. M. Then as already stated they often feed their young at night (Bent, 1940). Observers are usually not fully aware of the height to which these birds go for food. Ganier (1926) reports seeing hundreds of Swifts over Silers Bald in the Great Smoky Mountains as he mentions "an abundance of them at higher altitudes" (the elevation of Silers Bald is 5,620 ft.). Calhoun (1941) noted that flocks in the daytime could be seen only with the aid of 8X binoculars. Pickering reported seeing "an enormous gathering of Chimney Swifts" at Clarksville on July 19, 1938, and that he had never seen so many birds that early in the season. Evidently the birds were feeding. Then too, when the fall flocks appear at dusk they are nearly always out of sight they are so high.

If you watch the Swifts for a while you will notice they travel in circles, turns and curves but never for any distance in a straight line. Thus their migration is only a drift in a general direction as they hunt the air for insects. Imagine then if you can, the distance a bird flies when it covers an airline of 85 to 100 miles a day as evidenced by trapping records. Also consider the strength and stamina required of a Swift when it travels from New Brunswick via Louisiana and Central America to Peru.

Enemies:—The Swifts greatest single enemy is the weather. A steady drenching rain for two or three days may clear the air of insects and with

the food supply gone the birds are subject to starvation. Mrs. Laskey tells of an instance at Nashville where hundreds of Swifts were removed from a chimney after they had been overcome by smoke from an early kindled fire. Rain on a newly built nest will loosen it from the wall and at times nests containing young have been destroyed in this manner. There may be predators in their winter home but in the northern hemisphere it is only a question of eat and sleep. Banding records reveal that some at least have attained a ripe old age of 9, 10, 11, and even 12 years (M 14:6 and *Bird-Banding* 13:73).

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KNOXVILLE, TENN., 201 E. Peachtree St.

THE ROUND TABLE

SWIFTS ROOST UPON BARK OF LARGE TREE:—(That Chimney Swifts must immediately change their roosting habits upon approaching and reaching their winter home in the primitive upper Amazon regions is obvious, and various theories may be advanced as to whether they depend upon finding hollow trees or roost elsewhere. In *THE MIGRANT* for Dec., 1936 (7: 97), Ben B. Coffey told of how a flock of Swifts whirled about at dusk under the cornice of a Memphis downtown 4-story brick store building as though they were preparing to alight to roost, but finally went elsewhere. Such a site would have been quite comparable to the face of a cliff. Perhaps the most illuminating observation that has been published on this subject appeared in *BIRD-LORE* for Oct., 1926 (28: 395) and, being particularly pertinent to the contents of this issue, is reproduced below. Cold Spring, N. Y., is about 40 miles north of New York City.—Ed.) "At 2:30 P. M. September 5, 1926, we observed an excited flock circling between the housefront and the adjacent oak trees, and above the house-top and back. Their flight seemed to focus at a point 25 feet up on the trunk of a tall oak. The day was dull and we judged there was some sort of food there. Really, however, they were gradually alighting on the bark, as we discovered at 4:30 P. M., when most of the flock was found to have grouped itself in close formation, as shown in the rough sketch.

"Doubtless, a fire had been started under one of the chimneys (the day being chilly), and disturbed the usual resting in the chimney walls, although of this we are not sure. We have looked up our bird books and found that Swifts will spend the night inside a hollow tree when driven from chimneys, but this is a case of clustering in midday on the exterior of a tree.

"The birds seemed two or three deep, and several of us estimated well over a hundred of them. They were snuggled together, seemingly to keep warm, and the heads all concealed beneath the wings of those above. This patch of birds was of irregular shape, nearly 5 feet high and 7 to 8 inches wide at the widest part. It was constantly changing, as some birds seemed

to lose their grip and fly off and return, so that a dozen or two were on the wing and seeking a place to work into the group. We saw some alight at the edge and work up close, while others lit in the middle of the group and must have reached through with claws to grasp bird or bark, those failing falling back and taking wing. All had their heads concealed but the few upper ones. Toward dusk the birds, matching the moist bark, were invisible, but we examined them again by flashlight after dark, and all was quiet.

"Next morning, to our surprise, they were still there, in broad daylight, and some remained through to the afternoon, others detaching and taking flight. In the afternoon we noticed a new nucleus had formed about 5 feet from the ground, where we examined them closely. About 10 were in this group, and the upper ones had their eyes open, the other's head were concealed. They seemed stupefied and did not fly at once when touched, but on grasping them, they fell and then flew, except one we took in hand. It seemed totally unable to fly, as if suffocated by lack of air, and fluttered to the ground but soon recovered and was off.—E. K. and D. CAMPBELL, Cold Spring, N. Y."

SWIFTS Banded AT SOUTHERN STATIONS:—The following list has been compiled by reference to published article and by correspondence with some of the banders mentioned. There are several smaller stations whose results we have not been able to secure but some information about them may be found in B. B. Coffey's "Swift Banding in the South," in *THE MIGRANT*, 1938, 9:82.

<i>Operator</i>	<i>Location</i>	<i>Number banded</i>	<i>Years</i>
Ben B. Coffey, Jr.	Memphis, Tenn.	35,113	1932 to 1943
Amelia R. Laskey	Nashville, Tenn.	24,006	1937 to 1943
Wyman R. Green	Chattanooga, Tenn.	17,165	1928 to 1930
John B. Calhoun	Nashville, Tenn.	13,033	1938 only
H. E. Meyer	Knoxville, Tenn.	11,598	1940 to 1944
Alfred Clebsch	Clarksville, Tenn.	7,765	1938 and 1939
Geo. H. Lowery, Jr.	Baton Rouge, La.	21,414	1937, '38, '39
Harold S. Peters	Opelika, Ala.	21,503	1936 only
Stoddard & Handley	Thomasville, Ga.	6,000	1925 and 1926
R. J. Fleetwood	Macon, Ga.	27,720	1939 to 1943
John B. Calhoun	Charlottesville, Va.	20,851	1937 to 1940
Irwin Sturgis	Lexington, Mo.	8,500	1934 to 1943

The above accounts for about 225,000 of all the Swifts that have been banded.—ED.

SWIFT BANDING AT CLARKSVILLE, TENN.:—Swift banding operations in Clarksville have been covered in part by Calhoun in "1938 Swift Banding at Nashville and Clarksville" in the December 1938 *MIGRANT*, where he points to three remarkable records from birds banded here. After two years of interesting experiences with Swifts the absence of our young chimney climbers brought our investigations to a halt. We banded in all 7,765 Swifts: 4,264 in fall 1938, 726 in spring 1939, 2,775 in fall 1939. Early in the second fall one out of every 4.4 birds caught already carried our band, a week later one out of every 6.1 and a month later only one out of every 8.2. The high rate at the beginning of the season showed up at a chimney where we had banded before, in spring as well as fall, but most of the "returns" had been given their bands at other chimneys. Only one out of every 58 birds banded

in spring turned up again in fall, yet one out of every 9 banded the fall before was back. There was some shifting of birds between Clarksville and Nashville, 40 miles apart. Of the first flock we caught 1.7% were birds that had recently been banded at Nashville. This percentage changed little, except that we saw no Nashville nor other foreign bands during our spring trapping. The period between appearances in the two neighboring towns varied from 5 to 56 days. There was one real commuter: 39-79009 returned here Sept. 3, 1939, was in Nashville Sept. 8 and back with us Sept. 24. Another Swift that must have found Tennessee chimneys a bit funny was 139-67251. He was banded here on Sept. 3, 1939, was caught again in Nashville on Sept. 9, and was trapped once more in Memphis on Oct. 7. Our most distant traveller summered in West River Station, Picton County, Nova Scotia. The general picture pieced together from reports and recoveries conforms with tabulations published by stations with longer and wider experience than ours.—ALFRED CLEBSCH, Clarksville, Tenn.

SWIFT BANDING AT KNOXVILLE, TENN.:—Members of the Knoxville Chapter, T. O. S. have been actively banding Chimney Swifts since Oct. 5, 1940, and had trapped 10 flocks from then to and including Sept. 24, 1944. A tabulation of these operations, all carried out in Knoxville, is given below.

<i>Location</i>	<i>Date</i>	<i>Number Banded</i>	<i>Foreign Birds</i>	<i>Examined; Not Banded</i>
Univ. Tenn. Y	10/5/40	1,300	7	0
Sentinel Bldg.	10/12/40	690	9	0
Christenberry School	8/27/41	1,020	5	0
U. T. Law School	9/1/41	2,119	9	0
Christenberry School	9/2/41	2,546	10	0
Lyric Theatre	9/14/41	1,645	10	0
416 Kingston Pike	10/5/41	478	2	0
U. T. Law School	9/12/42	0	12	2,212
Nicholson Bldg.	9/16/44	1,800	6	601
Goodwill Bldg.	9/24/44	0	1	166
Totals		11,598	71	2,979

Mr. W. M. Walker and I are checking and analyzing our records to see what we can learn about the movements of these Swifts that pass thru Knoxville. We hope to do more trapping this fall and expect to continue the work here next year when more bands become available.—HENRY MEYER, Department of Zoology and Entomology, University of Tennessee, Knoxville.

SWIFT BANDING IN THE MACON, GEORGIA AREA:—The writer began the banding of Chimney Swifts on August 20, 1939 and the last lot of bands was on Oct. 10, 1943. During this period a total of 27,720 Swifts were banded as a result of 53 different operations. Approximately 2,650 that had been trapped were released unbanded due to lack of bands. The greatest number of birds found in one chimney was 5,350, on September 21, 1943 at Macon, and the least number was 11. The average number of birds per chimney found in 46 operations (omitting 7 having less than 100) was 620. Only 3 spring bandings were accomplished, these netting 723, 301 and 283 respectively. The results of the work can be briefly expressed by stating

that I have handled 166 Foreign Birds, 699 Returns and 267 Repeats. Among the Recoveries reported to me are an interesting group of 11 from the region west of Georgia and south of the latitude of Tennessee, since these have a particular bearing on the migration from here southward. Four of these Georgia banded birds were recovered in spring in eastern Texas. I have no recoveries as yet from Florida. When the writer has accumulated further data, he hopes to make a careful study of the results and prepare his findings for publication.—RAYMOND J. FLEETWOOD, U. S. Fish and Wildlife Service, Round Oak, Ga.

FALL MIGRATION NOTES FROM MEMPHIS:—Bird migration in the Memphis area has been rather erratic this fall. The season has not developed as in previous years, both as to individuals present and number of species recorded. So far, both have been below normal. Most notably behind this fall were the shorebirds and herons that are usually found in large numbers on Mud Lake, south of Memphis, for of these the numbers were 75% below normal. Moreover, certain species heretofore found regularly on the lake in the fall have been entirely absent this fall. These include Greater Yellowlegs, Semipalmated Plover, Western and Stilt Sandpipers. Likewise the migration of land birds, which has also been late this year, is 25% below normal. When I made my first visit to Mud Lake on July 31, the water-level was down and although the depth was shallow and at an excellent stage for water birds, only 20 Least and 15 Pectoral Sandpipers were seen. A Worm-eating Warbler was found near the shore and later in the day 59 White Pelicans flew overhead. On August 29, the shorebirds reached their greatest concentration when a total of 250 were seen of the following species: Lesser Yellowlegs, Killdeer, Semipalmated, Least, Pectoral, Solitary and Spotted Sandpipers. Herons reached their greatest numbers on Sept. 2, when 400 American Egrets and 200 Little Blue Herons were found present, along with 200 Wood Ibis and 16 Black Terns. A Duck Hawk was seen that day engaged in a game of scattering Blue-wing Teal and Wood Ducks. The falcon repeatedly dived low over the ducks, in a long glide, and could easily have caught one but was not observed to do so. As in previous years, the Yellow-bellied Flycatcher proved to be the most common *Empidonax* this fall. A Least Flycatcher was collected Aug. 27 in the willows about Mud Lake and others later. Two days later 16 Water-thrushes were counted near its shore. The first Blue-winged Warbler was recorded Aug 15, eight days late. Only the Canada Warbler has been more abundant this fall than in past seasons. Other birds of interest recorded or collected by the writer, were Worm-eating Warbler, Aug. 9, 23, 25; Yellow Warbler, Aug. 7; Wilson's Warbler, Sept. 1, and Mourning Warbler on Sept. 3. The last I collected in the Loosahatchie bottoms, 7 miles north of Memphis, and it was an adult male in fine fall plumage. This species is very rare here in fall migration.—ROBERT TUCKET, 245 N. Auburndale, Memphis, Tenn.

FIELD NOTES FROM MEMPHIS:—The following dates of birds seen this fall in and about Memphis may be worthy of mention for the sake of record:

Duck Hawk: On August 27, 1944, at Mud Lake on the Tenn.-Miss line, a male was observed several times attempting to catch some of the numerous shorebirds about the lake—Wilson's Phalarope: Aug. 27, at Mud Lake, a female was seen in with a large flock of Pectoral Sandpipers and "Peeps."

This individual flew into the flock with a Lesser Yellowlegs and remained with the flock for some time while study at close range was made.—Golden-winged Warbler: On Sept. 2, several males and females were seen in Overton Park.—Blue-winged Warbler: Sept 2, a brightly colored male was observed in Overton Park.—White Pelican: On Sept 4, at Mud Lake, 50 were seen by Messrs. Luther Keeton and Mac Evans.—Osprey: At Mud Lake, on Sept. 2, one was seen by Messrs. Keeton and Evans.—All of the above birds, except where otherwise stated, were recorded by Mrs. Hoyt, Mr. Keeton and the writer.—J. SOUTHGATE Y. HOYT, Kennedy General Hospital, Memphis.

MISSISSIPPI KITES SOUTH OF MEMPHIS:—During the course of field work undertaken this summer (1944) in Shelby County, Tenn., the writer had excellent opportunities for observing the resident Mississippi Kites (*Ictinia mississippiensis*) in the Ensley-Darwin bottoms south of Memphis. The bottoms are located in the extreme corner of Shelby County and are bounded on the south by the Horn-Mud Lake area; on the west by the Mississippi River; on the north by the Tennessee chute; and on the east by the Y. & M. V. Railroad. These bottoms are subjected to periodic floodings, and contain large areas of open fields as well as extensive wooded regions.

A comparison of the number of Kites seen this year, with the numbers seen in other years, indicates a decided increase. Only July 7 of this year the writer, in company with A. W. Burdick, counted seven Kites in the air in the southwest part of the bottoms. About thirty minutes later, on the opposite side of the bottoms, we counted no less than seventeen of them in the air. It would have been almost impossible for any of the birds of the first groups to have infiltrated into the second ground. A conservative estimation of the number of birds of this species in this area may be placed at 26 to 30. This is an exceptionally high density for this species.

I believe that it is safe to assume that not even in the days of this Kites greatest abundance would the density of any given area exceed that found today in these bottoms, except perhaps in rare instances. At the date mentioned, young birds in the nest were not due to have flown and this would indicate that all seen were adults. The birds are sociable, usually being found in groups. They apparently feed early in the day, when they may be found feeding low, in groups of twos and threes. However, later in the day, they assemble in larger numbers, many times numbering over a dozen birds. It is at this time the birds spend hours soaring and riding the air currents. These aerial displays often take place at such great altitudes that glasses are necessary to observe them. Kites are possessed of curiosity, and are easily "squeaked up" when they are within hearing distance. However, they are gun-shy and usually do not come within gun range.—ROBERT TUCKER, 245 N. Auburndale, Memphis, Tenn.

A BREEDING BIRD CENSUS AT MEMPHIS:—On June 18, 1944, the Memphis chapter took its second annual nesting census with the results outlined below. The number of occupied nests found were fewer than those reported last year, due to the fact that many species had already brought off their first brood. **PLACE:** Forest Hill Cemetery, Highway 51, Bellevue Extended. **SIZE:** 181 acres. **TOPOGRAPHY:** In the developed area which contains 81 acres, dogwood and bush wisteria predominate. Large trees are linden, elm, oak, several evergreens and other shrubs. The undeveloped area contains 100 acres,

75% open grassy spaces. North and south sides heavily wooded with small creek running through one end. SEASON: Early summer. TIME IN FIELD: 6 hours. WEATHER: Warm, clear summer day, light variable breeze. TOTAL ENUMERATED: 35 species. CENSUS: Bob-white, 1 pair with 4 young 2 individuals; Mourning Dove, 20 individuals, 8 nests; Yellow-billed Cuckoo, 8 individuals; Chimney Swift, 5 individuals; Flicker, 5 individuals, 2 nests; Red-bellied Woodpecker, 1 individual; Red-headed Woodpecker, 2 individuals; Downy Woodpecker, 2 individuals; Crested Flycatcher, 8 individuals, 10 nests; Purple Martin, 3 individuals; Blue Jay, 7 individuals, 1 nest; Crow, 4 individuals; Carolina Chickadee, 5 individuals; Bewick's Wren, 3 individuals; Carolina Wren, 3 individuals; Carolina Wren, 3 individuals; Mockingbird, 20 individuals, 2 nests; Brown Thrasher, 13 individuals, 5 nests; Robin, 40 individuals, 4 nests; Wood Thrush, 21 individuals, 5 nests; Red-eyed Vireo, 6 individuals, 2 nests (one bird was feeding young in nest); Warbling Vireo, 12 individuals, 1 nest; Parula Warbler, 1 heard singing; Kentucky Warbler, 1 individual; Maryland Yellowthroat, 10 individuals; English Sparrow, large number; Meadowlark, 10 individuals; Redwinged Blackbird, 1 individual; Baltimore Oriole, 6 individuals; Orchard Oriole, 8 individuals; Bronzed Grackle, 10 individuals, 4 nests; Cowbird, 2 pairs; Summer Tanager, 2 individuals; Cardinal, 12 individuals, 2 nests; Indigo Bunting, 2 individuals; Field Sparrow, 2 individuals. PRESENT: Mrs. Richard Anderson, Jess Blackstone, Mrs. I. R. Daniels, Sgt. and Mrs. J. Southgate Hoyt, Luther Keeton, Pauline James, Allen Kent, Lawrence Kent, Mary Mason, Dr. C. E. Moore, Mrs. John Pond, Mrs. M. L. Torti, Maurice Torti, Mrs. W. G. Williamson.—MRS. M. L. TORTI, 3107 Spotswood, Memphis, Tenn.

SPARROW HAWKS AND MARTINS:—In the Spring of 1941 a pair of Sparrow Hawks were seen going in and out of a gourd on one of the Martin-house poles a few yards from our house. As the Martins were disturbed we at first thought the hawks were robbing their nests and my husband shot and killed the female Sparrow Hawk only to find out too late that they had a nest and four young in one of the larger gourds.

The male hawk continued to feed the young birds until they left the nest and he was never seen in any of the other gourds occupied by the Martins though they had hysterics every time they saw him. They would chase him every time he came in sight until he went into the gourd and would follow him from the gourd until he disappeared, making the loudest noise of which they are capable.

The next Spring another pair of Sparrow Hawks were seen using a gourd on the other pole but I had it taken down and removed two eggs, fearing the Martins would leave. I then had a pole put up for the hawks, hanging only one large gourd on it, but they left the place and have not nested near us again.—MARY E. MARIUS, Knoxville, Tenn.

NOTES FROM ELIZABETHTON:—The Prairie Horned Lark appears to be a permanent resident here. Early in the season three pairs were observed almost daily. On April 7, a nest with four eggs was found and on April 18 the last egg was hatched. On this date a young bird just fledged from another nest was observed in the vicinity. On April 27, two of the young had left the nest first mentioned and the following day it was found vacated. On this day one young bird unable to fly was found close by. These birds have remained in the vicinity all summer, as many as 13 having been ob-

served together.—A pair of Shoveller Ducks were seen on the Wautauga River on March 26, in the vicinity of the Franklin Club. On April 2, 13 (including 6 males) were observed in one flock on the above river above the main Street bridge.—A flock of 20 Bobolinks was observed on August 25, early in the morning, feeding in a corn patch on Burgie Place, Elizabethton, by Mrs. Lee Roy Herndon.—HUGO DOOB, JR., R. 3, Elizabethton, Tenn.

NOTES ON PROTHONOTARY WARBLERS:—On Oct. 19, 1943, at about 6:00 p.m. I observed a Prothonotary Warbler (*Protonotaria citrea*) in a maple tree at the intersection of Riverside Drive and Hattie Ave., in Elizabethton, Tenn. The tree in which it was feeding was approximately 50 feet from the west end of the covered bridge which spans the Doe River. The bird was observed at close range with 10X binoculars, and later I was able to approach to within about ten feet of it. After I had observed the bird for several minutes I returned to the house and brought Mrs. Herndon and Lee Roy, Jr., to the scene and they also observed it at close range in the same location. It did not appear to be alarmed by our presence and was in the same tree when we left at approximately 6.30 p.m. This is much the latest date I have been able to find for this species in any of the records at my disposal. It is the only Tennessee record of which I am aware east of Knoxville, and I assume that this was just a casual and belated transient. If there are other records for upper East Tennessee than those in the vicinity of Knoxville I should be pleased to learn of them.

In this connection, some notes on this species in the far northern portion of its summer range may be of interest, for I have observed it several times in the only known nesting location in New York State. This site is about 40 miles northeast of Buffalo, near Medina, along Oak Orchard Creek. This area of the creek is bordered by Button Bush (*Cephalanthus occidentalis*) growing from very swampy shores and affording many excellent nesting cavities for the warblers. This area lies in a belt bordering on Lake Ontario which has a considerably lower elevation than any other portion of western New York and which is the regular habitat of several Carolinian species.

Bergtold mentions the Prothonotary Warbler as a casual visitant in this region but gives no dates. The first specific records for western New York are Bourne, T. L., Hamburg, May 20, 1923*; Perkins, Dr. Anne E., Collins, May 26, 1924**; Ulrich, E. A. (Mrs.); Schwenger, B. (Miss), and Wander, A. D., Oak Orchard Swamp, May 11, 1930. On May 17, 1931, eight Prothonotary Warblers were observed in this area by several observers. Between May 31 and June 21, 1932, five nests were found by Mr. and Mrs. H. E. Eckler. In subsequent years they have nested in boxes provided for them and as many as nine nests have been found in a single season. In a number of instances they have been known to have successfully reared two broods. Arrival dates for this area from 1938 through 1943 ranged from May 5 to May 13 and departure dates for the same years, July 4 to July 25. Arrival dates for the Buffalo, N. Y., area range from approximately three weeks to a month later than for the Knoxville, Tennessee, area. I have no data regarding departure dates for the Knoxville area.—LEE R. HERNDON, Elizabethton, Tenn.—

The Auk*, XLII: 138. *Ibid.*, date given as May 22, in error.

NOTES, HERE AND THERE

Sitting one recent August evening in the Field Artillery Bowl at Fort Sill, Oklahoma, before the start of an USO show, a T. O. S. couple noted an Arkansas Kingbird pass by overhead. For some reason the lady mentioned to her companion that they were probably the only ones in the large audience to notice such an incident. There was no obvious reason for him to disagree, but both were wrong. In fact, such a third party in the person of Lt. L. D. ("Buster") Thompson was seated directly behind them. When the couple looked up next to follow the course of Chimney Swifts darting by, Lt. Thompson knew his recognition of the Coffeys from Memphis was on sure ground. In the summer of 1932 the three had met at the Memphis Boy Scout Camp at Hardy, Ark. Later, in May, 1938, Buster and party from Greenwood, Miss., had joined Ben Coffey and Memphis Rover Scouts on a heron banding trip.

Recruiting Tom Bivins (now Lt.) of Milledgeville, Ga., the four made a trip together to nearby Mt. Scott, haunt of the Canyon Wren, Rock Wren, and Rock Sparrow. Lt. Thompson photographed a very unusual Phoebe nest, found earlier by Lt. Coffey. Formerly of Paris, Tenn., Lt. Thompson subsequently rejoined the 788th F.A. Bn. at Fort Bragg, N. C. The Coffeys now have an apartment at 141-27 79th Ave., Flushing, N. Y. After two years with the Field Artillery, most of which as an instructor in tactics at the Field Artillery School, Lt. Coffey has been detailed to the Air Corps and is with the Air Transport Command at New York City.

From Austin W. Burdick, of our Memphis chapter and more recently in military training in Texas, comes a card that his address is now "care Postmaster, New York." We wish him luck and a safe return from his overseas service.

John B. Calhoun, indefatigable Swift bander of a few years back, has accepted a position in the Dept. of Zoology of Ohio State University. Just now, his "sideline" is the study of English Sparrows from all parts of the United States to ascertain if there has been any evolutionary change due to environment. He will be glad to hear from those who can furnish him with material and will send shipping cages for the transport of live birds.

Henry B. Stevenson, who has been sending us some excellent reports from Oxford, Mississippi, is now teaching at Emory and Henry College, Emory, Va.

Howell Buntin, director of the State Dept. of Fish and Game for some years prior to 1939, has resumed that post. During the intervening years, Mr. Buntin as a State Senator did some fine work in helping to maintain proper game laws.

Our several chapters report that they are looking forward to their usual meetings and trips afield. Recording the late transients and the arrival of the winter residents is a game that takes on fresh interest each autumn.

If we have enthused you to the point where you want to run down to Peru to investigate the Swifts further, we suggest that you get a copy of "Peru,—A Handbook," by W. E. Dunn, from U. S. Supt. of Documents, price \$1.25.

T.O.S. dues become due and payable January 1st and are receivable by our Treasurer at any time prior to then. If he has to remind you later, remember that it now costs us a 3 cent stamp, not to mention his time.

THE MIGRANT

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*The simple truth about birds is interesting enough,
it is not necessary to go beyond it."*

PLEASE NOTIFY THE SECRETARY OF A CHANGE IN ADDRESS

EDITOR'S CHAT

As you must already be aware, this is a Chimney Swift issue and—why shouldn't it be? With eight of our Tennessee-banded Swifts among the thirteen that made possible the long expected historic discovery, we are justifiably elated. Congratulations to Mrs. Laskey, Messrs. Coffey, Clebsch, Calhoun, Green, Meyer, and the numerous others who led or assisted in the placing of 109,000 bands on Swifts within the State—more than a third of the total that have been banded at all stations. Hats off also to the other lucky five beyond our confines. In fact, to all who during the years have placed the little aluminum bands upon the legs of these feathered meteors, in their concerted effort to ascertain the winter home of the only common bird whose place of residence during that season had remained a mystery.

Interest in Swift banding has been revived and as bands and manpower again become available with subsidence of the war effort it will go forward again. Dr. Lincoln, of the U. S. Fish and Wildlife Service, thinks that bands should again become available by next spring. There is much yet to be learned about how Swifts make their southward journey, by what route they return in the spring, and to what extent they criss-cross the country during the migratory seasons. The records of a number of large banding stations have not as yet been analyzed; could this be done and all records of recoveries, foreign birds, returns and repeats be put together, we would have a fair picture of what happens within the United States and Canada. To the south of us, the picture is not as yet clear and a pretty problem there still awaits the investigator.

We ask the indulgence of those of our contributors whose articles have been crowded out of this issue by the Chimney Swift news. We thought it best to concentrate this matter in one issue and to defer several miscellaneous articles to our next. We will need, of course, additional material to fill that issue. The December number will be held over to January so as to include the results of our 15th Annual Christmas Bird Census and members are asked to carry this out with their usual fine cooperation. The dates may range from Dec. 20 to Dec. 31.

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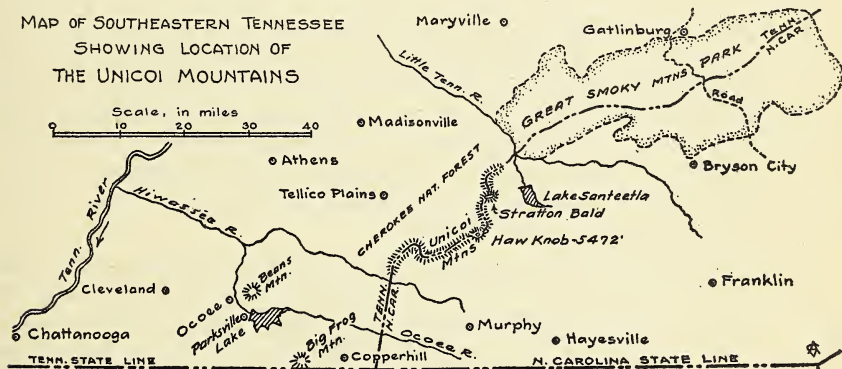
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SUMMER BIRDS OF THE UNICOI MOUNTAINS

By ALBERT F. GANIER and ALFRED CLEBSCH

The high crest of the Appalachian Mountain chain forms the border line between eastern Tennessee and western North Carolina. Near the north end, massive Roan Mountain towers to 6313 feet above sea level and from it, southwardly, extend the Unakas, the Bald, the Great Smokies (including Clingman's Dome, 6642'), and finally the Unicois. The last mentioned chain, extending from the Little Tennessee River some thirty miles southward to the Hiwassee, had never been worked by ornithologists and thus held forth so strong a lure that we decided upon it as the location for our 1944 investigation trip, from June 18 to 25.



Being chiefly interested in ascertaining which of the species ranging to the high Smokies might also be found forty miles away in the Unicois, we arranged to camp on the mountain's ridge, at Stratton Meadow Gap (4350'), and to spend our entire time along the tops. Being in the Cherokee National Forest on the Tennessee side, we found that passable auto roads had been built to the Gap and for a mile or two each way along the crest. Here, between Haw Knob, which rises to 5472' and is the highest peak of the chain, and Stratton Bald (5272') we found bird life fairly plentiful for a forested mountain area and were able to list 39 species between 4300 feet and the summits. The distance along the ridge between these two points is eight miles.

The Cherokee Forest covers the major portion of Monroe and Polk Counties on the Tennessee slope and consists of a mixed forest of pines, hemlock and hardwoods, logged over many years ago and now well timbered

again with strong young growth. The land on the Carolina side is still in virgin forest, the property of a wood fiber company, and there one may see southern mountain forests as in the days of the earliest settlers. One slope (at 4400'), covered with a virgin stand of massive hemlocks, some five feet in diameter, may be the finest remaining grove of this beautiful tree left in the southern mountains. Yet, it is all marked for the woodman's axe.

No balsam spruce grow in these mountains for its southern limit is just south of Clingman's Dome. The dominating trees of the summits are beech and birch and these form open woodlands delightful to tramp thru. Stratton Bald, as the name implies, is bare of trees over five or six of its acres and larger and smaller balds are found at Stratton Gap, Whigg Cabin Bald (5000') and a couple of acres on the summit of Haw Knob. These balds are covered with thick mountain grass, wild strawberries and other low growth, which mountain cattle keep neatly cropped. The Whigg Bald was lived upon for a time by the pioneer for whom it is named, and from the seven or eight open acres on its crest, one gets wonderful views of the "sea of mountains" all about. There is very little rocky outcrop in the Unicois and only in one place did we see a group of low cliffs such as might be chosen by Ravens and Duck Hawks for a nesting place. The localities referred to are all shown on the contoured Haw Knob quadrangle map of the U. S. Geological Survey.

On arrival, we pitched our tent in a little spot of open meadow by a clear mountain stream, cleaned out the spring in the nearby rhododendron "jungle," built a cooking grill with stone smokestack, made our pallets on a bed of dry beech leaves, and soon found ourselves comfortable enough for the purpose at hand. We were most fortunate as to rainfall, experiencing only a brief thunder shower and losing no time on account of it. The third member of our party was Edward Clebsch, 15, our frequent partner on bird trips—at once tireless, observant, and generally useful.

The annotated list of 39 species follows. Specimens were collected of those followed by an asterisk (*) chiefly for the purpose of making subspecific identifications. Those marked thus (**) have kindly been checked over by Dr. Alex Wetmore of the U. S. National Museum to whom we express our thanks. The figures shown in parentheses are the total number listed during our stay, they being compiled from card lists made each day.

EASTERN TURKEY VULTURE: *Cathartes aura septentrionalis*. (1)

One individual seen at Stratton Gap.

EASTERN RED-TAILED HAWK: *Buteo jamaicensis borealis*. (2)

Observed at the Gap on two occasions and another over the summit of Stratton Bald.

APPALACHIAN RUFFED GROUSE: *Bonasa umbellus monticola*. (3)

Recorded at three points in the forest roads. The form of Grouse inhabiting eastern Tennessee has been recently referred to the above race by Messrs. Aldrich and Friedman, (*Condor* 1943, 45: 85-103.)

EASTERN BOB WHITE: *Colinus v. virginianus*. (1)

One heard calling from the Gap. The grassy balds and open beech woods about them should offer good habitats for a few pair.

EASTERN TURKEY: *Meleagris gallopavo silvestris*.

While we did not encounter any of these birds, we were assured by Game Warden Lovin that they were often seen and conditions would seem well suited to their increase. However, the presence of many wild hogs (Prussian boars) may cause undue destruction of nests and young. On Whigg Bald we found a freshly dropped turkey feather.

NORTHERN BARRED OWL: *Strix v. varia*. (2)

Two were heard nightly from our camp, calling from a hemlock forest on the mountain slope just north.

CHIMNEY SWIFT: *Chaetura pelagica*. (9)

One or two pair of these birds were to be found in each locality visited, including three birds about the summit of Stratton Bald. They probably nest primitively within the numerous big dead chestnut trees.

RUBY-THROATED HUMMINGBIRD: *Archilochus colubris*. (5)

Observed at four different locations.

FLICKER: *Colaptes auratus* subsp. (3)

Uncommon. Three birds were seen at three locations, two of which were feeding young in nests. One lot of young was ready to fly.

SOU. PILEATED WOODPECKER: *Ceophloeus p. pileatus*. (2)

Observed once among virgin hemlocks and again on Sassafras Ridge.

YELLOW-BELLIED SAPSUCKER: *Sphyrapicus varius* subsp.* (6)

We were pleased to be able to extend the known breeding range of this species southwestward into the Unicoi Mountains, finding them at home in the Gap, on John's Knob, at Swan Meadow (on the Carolina side at 4250'), and in the deciduous forest at 4700'. At the latter location, a pair were busily feeding noisy young in a nest hole drilled 50 feet up in a dead chestnut.

HAIRY WOODPECKER: *Dryobates villosus* subsp. (4)

Rare; seen only at the Gap, at Strawberry Knob, and on the trail to Stratton Bald.

NORTHERN DOWNY WOODPECKER: *Dryobates pubescens medianus*. (3)

Rare, as were all the woodpeckers. Seen at three locations.

EASTERN WOOD PEWEE: *Myiochanes virens*. (9)

Observed at several locations, usually in open woods.

FLORIDA BLUE JAY: *Cyanocitta cristata cristata* (Linn.).** (4)

Found at the Gap, Strawberry Knob and on Sassafras Ridge.

NORTHERN RAVEN: *Corvus corax principalis*. (3 or 5)

One of the hoped for sights of our stay was the Raven, now extinct in Tennessee except along its eastern border-line, and in this we were not disappointed. Late in the first afternoon one flew low across the Gap near our camp and two days later a pair were heard in the hemlocks on the slope above us. We had been told that they "hung out" at Stratton Bald and on our hike there, while looking from the crest into the Citico Gorge, a Raven suddenly appeared a few hundred feet overhead. With set wings he soared straight ahead for nearly a mile until lost to view. We were constantly on the lookout for suitable nesting cliffs for this species, but saw none except a few on the south side of Brush Mountain and which we were unable to get to on this trip. They may nest in this area in the big hemlocks, as they are known to do in Pennsylvania. J. B. Lovin, Game Warden, told us that he

captured one some years ago in a steel-trap set for bobcats. We requested him to lend these rare birds his most zealous protection.

CAROLINA CHICKADEE: *Penthestes c. carolinensis*.** (7)

Found only at the Gap and on the ridge toward Stratton Bald.

TUFTED TITMOUSE: *Baeolophus bicolor*. (8)

Found at four locations, 4300 to 5100 feet.

WHITE-BREADED NUTHATCH: *Sitta carolinensis* subsp. (13)

Fairly well distributed. At one point, young out of the nest were being fed by parents.

RED-BREADED NUTHATCH: *Sitta canadensis*. (2)

Here again we were able to extend the breeding range of a species southward from its nearest outpost near Clingman's Dome in the Smokies. In the grove of virgin hemlock previously referred to, we sought for it intensively on June 23 and were rewarded by locating two of them and identified them beyond question. This probably marks the southerly limit of their breeding range.

SOUTHERN WINTER WREN: *Nannus troglodytes pullus*. (2)

Even rarer than we expected for we only located it at two points during our stay, at 4300 and 4700 ft. One visited the vicinity of our camp several times from the nearby rhododendron thickets.

CATBIRD: *Dumetella carolinensis*. (14)

At the Gap we estimated 8 were present and it was found elsewhere along the roads and balds up to 5000 ft.

EASTERN BROWN THRASHER: *Toxostoma r. rufum*. (5)

Found only at the Gap where there were two pair, one of which had a nest with young, and two others on Sassafras Ridge.

EASTERN ROBIN: *Turdus m. migratorius*.** (20)

Fairly common about the balds and also found in the more open woods.

WOOD THRUSH: *Hylocichla mustelina*. (30)

Fifth most common species listed, perhaps by reason of its loud and frequent song which incidentally seemed to us less mellow and sweet than those dwelling in the lowlands. A nest held three eggs.

VEERY: *Hylocichla f. fuscescens*.* (50)

Most common bird found on our stay and well distributed, being found from 3750 to 5472 ft. At the last elevation a nest with three eggs was found on top of Haw Knob. Many other nests were found, six of which contained 2 or 3 eggs and one contained small young. Most of the nests were built in small cattle-cropped beech sprouts about two feet above the ground although a few were in little hemlocks. A loose pile of beech leaves is brought in and the nest proper is built into this.

CEDAR WAXWING: *Bombycilla cedrorum*. (7)

Four were seen about the Stratton Gap meadow and three about the Whigg Bald meadow.

MOUNTAIN VIREO: *Vireo solitarius alticola*.* (30)

Fairly common and well distributed, announcing its presence by its frequent song. A nest nine feet up contained four addled eggs.

BLACK-AND-WHITE WARBLER: *Mniotilta varia*. (4)

Rare, found at three locations, one bird being a young of the year.

CAIRNS WARBLER: *Dendroica caerulescens cairnsi*.* (47)

Second most common bird listed, its presence being evidenced chiefly by its song. Six nests were found, one contained 4 eggs, two containing 3, one containing 2, and two were just completed. Unlike those in the Smokies, where they nest chiefly in rhododendron, here they nested in small beech sprouts usually. The nests averaged two feet up and were lined chiefly with black cattle hair. Some white cattle were also ranging the ridges but these warblers used only the black hair.

BLACKBURNIAN WARBLER: *Dendroica fusca*.** (3)

In the aforementioned grove of virgin hemlock a special search was made with a view of extending the summer range southwestwardly along the state line from the Great Smokies, and in this we were successful, finding three there and collecting a male. Mr. A. H. Howell found them about thirty miles further south, in July, 1909, on Brasstown Bald just below the Tennessee line. (*Auk*, 26:129-137.)

CHESTNUT-SIDED WARBLER: *Dendroica pensylvanica*.* (34)

Fourth most common species and well distributed. A nest with three fresh eggs were found at the Gap among briars on June 22 and a just completed empty nest was found in a maple sprout by a forest trail.

OVENBIRD: *Seiurus aurocapillus*. (21)

Fairly common. A fledged young was found at one location and an empty nest at another.

CANADA WARBLER: *Wilsonia canadensis*.* (5)

Infrequently seen, being noted at but four locations.

EASTERN COWBIRD: *Molothrus a. ater*.* (1)

Upon entering the meadow where cattle were grazing on Whigg Bald we were somewhat surprised to see a Cowbird fly across. It was collected and proved to be a young of the year, probably having been reared by a pair of early nesting Juncos or Rose-breasted Grosbeaks.

SCARLET TANAGER: *Piranga erythromelas*. (3)

Noted at three locations, between 4300 and 4800 ft.

ROSE-BREASTED GROSBEEK: *Hedymeles ludovicianus*.** (16)

Regularly seen and heard, chiefly about the balds 4300-5200 ft. A deserted nest found 10 feet up on a beech limb and a fledged young one was found dead under the tree.

EASTERN GOLDFINCH: *Spinus t. tristis*. (5)

Rare, found at the Gap, on Whigg Bald and a pair or more on the summit of Stratton Bald.

ALABAMA TOWHEE: *Pipilo erythrophthalmus canaster*.** (16)

Observed at numerous locations and up to 5200 ft. Two empty nests and another with 3 eggs by the side of a trail.

CAROLINA JUNCO: *Junco hyemalis carolinensis*.* (42)

Third most common species according to our daily listing cards and young of the year were already abroad. Half a dozen nests were found, usually in banks above roads and trails. Some were unfinished, three held three eggs each and one held small young. These Juncos are less common here than in the Smokies.

NASHVILLE, TENN. (A. F. G.) and CLARKSVILLE, TENN. (A. C.)

NOTES ON THE PEREGRINE FALCON*

By WALTER R. SPOFFORD

The tree-nesting Peregrines, on Reelfoot Lake in north-west Tennessee, were visited on April 30, 1944, and three young were seen near the same tree used the previous year (MIGRANT, 1943: 25-27). One young was flying around and two more were perched near the nest cavity. From their large size, it was assumed that all were females. Our attention was attracted by their quavering but loud and noisy food calls. Soon the old falcon (the female) brought them food, and there was a minor pandemonium. Two days later, another short visit was made and this time they were all in nearby trees. One perched on a high snag, preening her plumage, and down feathers drifted downwind from her labors. Often she stretched both wings above her head (a "warble" in falconer's parlance) and at other times she stretched one wing and corresponding foot, with her tail half spread and pulled to the same side (a "mantle"). Another young was seen half hidden in a tangle lower down in the same tree, her presence revealed by her food calls, and a third frequently flew around overhead, showing surprising proficiency. After about an hour (at about noon) the old falcon came in with prey, closely followed by the most active young. She gave it, however, to the bird on the high snag who carried it along the limb a yard or so, spread her wings and tail over it in protective fashion and soon began to feed. Later the old falcon fed another young on a high feeding perch which was observed so used the previous year. When the old falcon saw the intrusion below she scolded loudly, and the male sooned joined the racket.

The feet of the one young seen well were pale yellow, and their wings were already quite pointed, indicating that they were approaching eight weeks of age. This would indicate that incubation began in early February, this early date being probably a result of the unusually warm weather of last winter. Food remains under the nest tree included those of Blue-winged Teal, Gadwall, Coot, Rail sp. and Grackle.

The eyrie in the canyon below Fall Creek in Van Buren County was visited on June 10. The nest cliff was undefended as we climbed to its base, and no bird was seen close by. Across the canyon food-calls were heard, and a white-breasted (but young?) small Peregrine was seen there perched on a dead limb hanging over a cliff, and later we saw a falcon stoop into a group of Turkey Vultures. The next day we spent six hours on a point of rock across from the eyrie. At 10 A.M. the old falcon flew past the nest cliff, towing prey, and a young male flew out and carried the prey to a ledge. The actual nature of the food-pass was not determined, nor was it possible to identify the prey. Soon the young, or another, flew out over the canyon and was lost to view against the distant trees. Meanwhile the old falcon flew directly toward us, and we could look down on her dark slate-gray plumage as she winged up Piney Creek canyon, turned, and then began steady wide ascending circles overhead. After twenty minutes she had become a mere point in the sky overhead and thus out of vision with my seven power binoculars. Probably she was between 8 and 10 thousand feet (?) when lost

* *Falco peregrinus anatum* (Duck Hawk) of the A.O.U. checklist.

to sight. During the next five hours nothing further was seen. Attention was directed to the types and frequency of suitable prey that appeared in the canyon, and it was remarkable for its scarcity.* A few Chickadees and Tufted Titmice were seen in the woods below, and sometimes a Black-throated Green Warbler broke the cover of the hemlocks, but a single Blue Jay was the only possible prey that appeared, and he was exposed only briefly. Lack of food may well be a factor in explaining the scarcity of the Peregrine Falcon in the otherwise ideal cliff-rimmed canyons of the Cumberland plateau.

The well-known eyrie in the Great Smoky Mountains National Park was visited on Aug. 5. No falcons were seen here, but there was evidence that several perches (male?) had been used in recent months. An unused "scrape" was present on the most obvious nest ledge and it seemed probable that no young were raised here. However, Mr. Arthur Stupka, Park Naturalist, reported that the falcons were seen at a nearby cliff several times during the spring and that they have nested there.

An interesting experience with a wild falcon occurred near my home south of Nashville during the past autumn. While the writer was flying his trained Peregrine over an open field, a wild individual dropped out of the sky and chased or played with the trained bird. Once the wild falcon put on a beautiful three-hundred foot stoop with closed wings at a dead pigeon tossed into the air. After some fifteen minutes, the trained bird alighted in a tree and the wild one flew away.

VANDERBILT UNIVERSITY, NASHVILLE, TENN.

* Note: The results of a week's survey of the birdlife of this area (MIGRANT 1940: 53-57) verified the relative scarcity of birds in this wilderness section. Also, the ability of these Peregrines to keep their presence a secret was revealed years ago when not until after four trips there in search of them by Ganier and others, was one of the birds actually seen. Each time however there was evidence that the eyrie was in use.—EDITOR.



FIELD IDENTIFICATION OF BREWER'S BLACKBIRDS

By AUSTIN W. BURDICK

Following my brief notes on this species in THE MIGRANT for December 1943 (p. 77), the Editor requested me to write out some suggestions which would enable other observers to distinguish the Brewers from the closely related and more often seen Rusty Blackbird.

In the first place, the preferred habitat of the Rusty is about the water's edge, in some swampy thicket or wet woods for there it finds the food it likes. On the other hand, the Brewers, although also a marsh breeder, is in the winter season more a bird of the pasture lands and open fields and may most often be found in the vicinity of barn lots. There they will be found in small groups by themselves or occasionally in company with Rustys, Grackles, Redwings or Starlings. When seen in company with Grackles, their size is definitely smaller and the bill is smaller in proportion. In turn, the Brewers in the field appears a little larger than the Rusty and is definitely so according to measurements.

In their summer plumage, the males are readily distinguishable but since we do not have them at that season, only the fall and winter plumage will be compared below. The back of the adult male Brewers is a dark greenish black and the head and neck is *purplish* black. They remind one of miniature male Grackles. In early fall however their plumage is lightly tipped with greyish-brown but this wears off before mid-winter. At this season the corresponding tipping of the Rusty's plumage is so pronounced that the underlying black may not show between. The bill of the Brewers is thicker at the base. In both species, the males have a conspicuous light yellow iris and this shows with greater contrast in the Brewers because of less rusty in the surrounding area. The Rustys never have the purplish head for after the rusty edgings have worn off in late spring, these areas take on the *bluish-black* color of the back and wings and they are then in their summer plumage. The immature males of the Brewers are more heavily tipped than the adults but the tipping is greyish-brown rather than rusty-brown.

The females of the two species are smaller than the corresponding males and are more difficult to distinguish apart. They are a buffy-grey below and around the head, with the wings and tail faintly glossed with bluish-green. They are lighter in color than the males and those of the Rusty have more brown tipping than the Brewers. The iris of the female Rusty is pale yellow (as in the male) but the iris of the female Brewers is *light brown*. Attention should be called here however to the fact that the young of both species resemble the females and that both have a light brown iris, as in the female Brewers.

The migration route and winter home of this species has, until recent years been understood to lie entirely west of the Mississippi River. However, Mr. T. D. Burleigh, writing in *The Wilson Bulletin* for 1933, page 111, recorded having found them frequently in the vicinity of Asheville, North Carolina and gave some notes on their habits. Since that time they have been recorded in most of the southeastern states. Dr. T. S. Roberts, in his "Birds of Minnesota," states that the Brewer's Blackbird arrives there much later than the more northerly ranging Rusty, appearing about April 1st. Birds which tarry with us into the last half of March are therefore more apt to be the Brewer's.

A close lookout in Tennessee, at the proper time and places, may show this species to be a more frequent visitant in the State than it is now known to be. There are no collected records as yet however and although good close-up views have been had of adult males, the only safe identification is that of a collected specimen.

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ANNUAL MIDWINTER BIRD COUNT

By OUR MEMBERS

Under the most trying circumstances in the history of our midwinter bird counts, THE MIGRANT'S 16th, presented herewith, was finally concluded. Depleted manpower-off to the wars, stringent gasoline shortage, and finally, one rainy week-end after another, threatened even mediocre success in making up the lists. We finally "came thru" with lists from all the usual localities and the eleven from Tennessee points are tabulated below. To this roster we are happy to welcome for the first time a list from our new Elizabethton chapter. The total number of species listed for the State this year drops to 89. This compares with 99 a year ago and 108, 94 and 93, prior to that. Easily the most outstanding species on the current census was the Red Phalarope, for which record additional details will be found in the Round Table.

Probably both forms of Grackle were seen; the Purple in East Tenn. and the Bronzed in West. We list only Chickadees but in addition to the Carolina, the Black-capped was to be found in the high Smokies. Two or more subspecies of Juncos, Towhees, and others could doubtless have been identified upon examination of specimens but as usual we omit such differentiation. Although *Audubon Magazine* in its census lists permits the inclusion of Rock Doves (common pigeons), we exclude these from our lists.

	Memphis Dec. 31	Dyersburg Jan. 8	Henderson Dec. 21	Clarksville Jan. 11	White Bluff Jan. 14	Nashville Dec. 24	Murfreesboro Dec. 24	Great Smokies Dec. 17	Careyville Jan. 4	Greeneville Dec. 27-28	Elizabethton Dec. 24
Number of Species.....	64	47	55	42	43	63	32	46	35	34	39
Number of Individuals.....	4,727	3,212	1,288	907	871	3,744	945	1,235	785	676	3,658
Number of Observers.....	17	1	2	2	6	13	3	17	2	1	9
Great Blue Heron.....	1	---	---	---	---	2	---	---	---	---	---
Pied-billed Grebe.....	---	---	1	---	---	---	---	---	---	---	---
Canada Goose.....	50	---	---	---	---	---	---	---	---	---	---
Common Mallard.....	350	12	135	---	6	45	36	---	76	---	6
Black Duck.....	---	---	4	---	---	15	---	---	219	---	---
Gadwall.....	---	---	---	---	---	5	---	---	---	---	---
Baldpate.....	---	---	---	---	---	1	---	---	3	---	---
Green-winged Teal.....	10	---	---	---	---	---	---	---	---	---	---
Shoveller.....	---	---	1	---	---	---	---	---	---	---	---
Ring-necked Duck.....	---	---	14	---	---	1	---	---	---	---	---
Lesser Scaup.....	3	---	2	---	---	5	---	---	2	---	---
Hooded Merganser.....	---	---	---	---	---	---	---	---	4	---	3
American Merganser.....	---	---	---	---	---	---	---	---	15	---	---
Red-breasted Merganser.....	1	---	---	---	---	---	---	---	---	---	---
Ducks—unidentified.....	---	---	---	26	2	18	---	---	---	---	---
Turkey Vulture.....	---	2	25	5	6	1	---	---	---	22	---
Black Vulture.....	---	---	12	4	4	35	6	---	---	11	---
Coopers Hawk.....	1	---	1	1	---	1	---	2	1	---	1
Red-tailed Hawk.....	5	5	3	2	1	5	2	---	---	1	---
Red-shouldered Hawk.....	1	---	---	2	---	1	---	---	1	---	---
Marsh Hawk.....	3	3	1	---	1	---	1	---	2	1	---
Sparrow Hawk.....	11	2	---	---	---	14	4	3	1	2	1
Ruffed Grouse.....	---	---	---	---	---	---	---	1	---	---	---
Bob-white.....	38	10	---	2	22	27	---	---	---	1	36
Coot.....	---	---	2	---	---	2	---	---	18	---	---
Killdeer.....	37	2	6	---	---	23	4	---	1	---	---
Wilsons Snipe.....	1	---	---	---	---	1	---	---	---	---	---

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Red Phalarope	---	---	---	---	---	---	---	1	---	---	---
Herring Gull	1	---	---	---	---	---	---	---	1	---	---
Ring-billed Gull	1	---	---	---	---	---	---	---	---	---	---
Mourning Dove	10	---	2	5	11	16	14	18	1	179	32
Screech Owl	---	---	---	---	---	2	---	---	---	---	---
Great Horned Owl	---	1	---	---	1	2	---	---	---	---	---
Barred Owl	1	2	---	---	---	4	---	---	---	---	---
Belted Kingfisher	---	---	---	2	4	2	---	1	1	---	1
Flicker	48	7	23	9	24	19	3	3	2	7	23
Pileated Woodpecker	1	4	1	8	5	10	2	4	---	---	1
Red-bellied Woodpecker	14	8	11	6	17	25	---	1	---	4	---
Red-headed Woodpecker	21	---	2	---	---	2	---	---	---	---	---
Yellow-bellied Sapsucker	3	---	2	1	2	10	3	1	---	---	---
Hairy Woodpecker	4	3	2	1	4	7	2	---	---	---	2
Downy Woodpecker	2	7	3	8	21	46	1	14	2	1	16
Phoebe	1	1	---	---	---	---	---	2	---	---	1
Horned Lark	---	5	---	16	2	180	175	5	---	35	---
Blue Jay	252	16	20	19	32	22	19	7	5	11	31
Northern Raven	---	---	---	---	---	---	---	6	---	---	---
Crow	25	57	17	132	77	53	300	261	9	116	122
Chickadee	29	11	21	16	47	110	5	97	15	10	60
Tufted Titmouse	7	9	3	3	18	73	2	4	3	9	35
White-breasted Nuthatch	---	2	---	---	3	3	---	1	---	1	---
Red-breasted Nuthatch	---	---	---	---	---	---	---	2	---	---	---
Brown Creeper	3	1	---	---	---	5	---	---	---	---	1
Winter Wren	2	---	2	5	1	---	---	6	---	---	---
Bewicks Wren	---	3	2	2	---	4	4	---	---	2	---
Carolina Wren	11	14	6	11	11	49	4	16	3	12	42
Mockingbird	48	9	3	7	2	47	8	5	5	4	5
Brown Thrasher	9	---	2	---	---	---	---	---	---	---	---
Robin	116	5	315	41	2	5	78	25	3	21	14
Hermit Thrush	3	2	2	---	2	4	---	4	2	---	---
Bluebird	18	17	17	16	65	95	5	32	18	4	33
Golden-crowned Kinglet	21	2	11	2	2	10	---	13	---	---	10
Ruby-crowned Kinglet	3	---	---	1	---	1	---	2	---	1	4
Cedar Waxwing	8	---	8	55	---	4	---	---	---	39	65
Migrant Shrike	18	4	1	---	---	3	---	1	---	---	1
Starling	787	2,500	13	229	4	1,690	450	79	15	87	2,550
Myrtle Warbler	35	3	4	7	21	29	5	15	8	3	78
English Sparrow	79	56	67	57	4	130	20	119	25	23	98
Meadowlark	187	31	5	43	---	23	39	34	---	6	2
Red-winged Blackbird	35	7	95	1	---	1	---	---	---	---	---
Rusty Blackbird	210	---	117	---	---	2	---	---	---	---	---
Cowbird	50	---	---	---	---	23	18	---	---	---	---
Grackle	884	---	5	---	---	---	100	5	---	---	24
Blackbirds—unidentified—Note	---	---	---	---	---	---	---	---	---	---	---
Cardinal	129	49	30	29	33	212	12	73	12	6	83
Purple Finch	---	7	9	---	4	---	2	4	---	---	---
Pine Siskin	---	---	---	---	---	---	---	96	---	---	---
Goldfinch	6	12	14	27	29	40	---	103	90	22	73
Red-eyed Towhee	11	---	3	8	18	65	---	---	---	---	3
Savannah Sparrow	15	3	---	---	---	---	---	2	---	---	---
Leontes Sparrow	---	2	1	---	---	---	---	---	---	---	---
Vesper Sparrow	9	---	---	---	---	---	---	---	---	---	---
Junco	422	150	65	70	154	190	---	53	100	6	78
Tree Sparrow	2	---	---	---	---	6	---	---	---	---	---
Field Sparrow	79	21	29	14	43	92	---	24	19	17	38
White-crown Sparrow	11	96	9	1	---	29	10	---	---	4	8
White-throated Sparrow	393	19	85	50	62	54	---	15	36	2	27
Fox Sparrow	16	4	7	---	6	---	---	---	---	---	---
Lincoln Sparrow	1	---	---	---	---	---	---	---	---	---	---
Swamp Sparrow	49	2	26	18	9	6	---	1	---	---	1
Song Sparrow	94	17	21	8	45	108	6	74	67	3	44

NOTES ON THE CENSUS

MEMPHIS: Not included in the foregoing tabulation was the report of Lt. (j. g.) Schwartz that several hundred thousand unidentified "blackbirds" were seen flying across the Mississippi river at roosting time.—**DYERSBURG:** This census was taken about 10 miles south, in the vicinity of Halls. For notes on the Leconte's Sparrow, see Round Table section. The Phoebe was probably the same one listed on Dec. 1 and again on Jan. 14; on each occasion it was near or at a small pond.—**HENDERSON:** The Leconte Sparrow had a broken wing and was captured to make identity certain. A Sparrow Hawk was noted the day after the census.—**CLARKSVILLE:** The Ruby-crowned Kinglet had been for a week previous a guest of Dr. Pickering's feeding shelf. On Jan. 6, during 2½ hours over the same route, these additional species were listed; Mallard, 6; Wilsons Snipe, 1; Sparrow Hawk, 3; Meadowlark, 1; Rusty Blackbird, 6, and Tree Sparrow, 3.—**NASHVILLE:** Gulls were seen on the Cumberland River on Dec. 26; almost certainly Herring Gulls. The Black Vultures were at their roost in Percy Warner park. The ducks were on Radnor lake. Bob-whites were flushed at 6 places. The Ruby-crowned Kinglet, rarely found in winter, was identified by Forbes. Of the Starlings, 1500 were in one flock. Expected birds not found were Grebe, Grackle, Phoebe, Winter Wren, Fox and Savannah Sparrows.—**MURFREESBORO:** A Palm Warbler was seen at Kittrell on Dec. 3.—**GREAT SMOKIES PARK:** The Red Phalarope is covered by a special note in the Round Table section. The Horned Larks were recorded for the first time on a midwinter census. Additional birds seen on Dec. 15, near Gatlinburg, were Bob-white and Fox Sparrow.—**CAREYVILLE:** The Herring Gull was in brown and white plumage. One Amer. Merganser had dark green head and predominantly white sides while the others were in subdued winter plumage. A large owl, probably Great Horned, was also seen.—**GREENVILLE:** Two Purple Finches were seen in the area on Dec. 24.



LOCALITIES, WEATHER AND PERSONNEL

MEMPHIS: Dec. 31, 1944. Same area as covered in previous years; city suburbs 10%, open pastureland 15%, deciduous woodlots 40%, edges of bottomlands, 40%, and river 10%. Hours, dawn to dusk. Heavy, low-hanging clouds; light, steady rain, poor visibility; temp. range 40-52; northwest wind in p.m., 8-12 m.p.h. River-bottoms and lowlands flooded; water standing in open fields. 17 observers in 6 parties. Total party-hours 38. Miles, 18 on foot, 55 by car and 6 by boat. Mrs. Floy Barefield, Mrs. Irene R. Daniel, Lincoln Emery, Sgt. and Mrs. J. Southgate Y. Hoyt, Pauline James, Luther O. Keeton, Lawrence Kent, Dr. Clarence E. Moore, Patricia Moore, Kenneth Moore, Joe Mount, Lt. (j. g.) Schwartz, Herbert Shapiro, Alice Smith, Mrs. M. L. Torti and Maurice Torti Jr.—**DYERSBURG:** Jan. 8, 1945. Vicinity of Halls (10 m. south of Dyersburg) in Lauderdale County. Farm lands, open fields and heavy woodlands. Temp. range 45-50; wind 5-10 m.p.h.; southeast; foggy in a.m.; cloudy most of day. Hours, 8 a.m. to 5 p.m. About 9 miles on foot. One observer; Capt. Burt L. Monroe.—**HENDERSON:** Dec. 21. Henderson to Forked Deer river bottom near Talley's store, Lakes Placid and LaJoie in Chickasaw State Park. Overcast, with moderately high n-e wind; ground partly frozen; temp. range 37-40; 40 miles by car and 4

on foot. Robert L. Witt, Freed-Hardeman College, accompanied by Paul Talley, a student.—CLARKSVILLE: Jan. 11. Eastward from town thru Cumberland river bottoms and along T.C. RR, to Mark's Slough, returning same way; 20 miles on foot. 8 a.m. to 6:30 p.m. Weather fair; temp. moderate; ground bare. Alfred and Edward Clebsch.—WHITE BLUFF (Montgomery Bell State Park exclusively, 35 miles west of Nashville): Jan. 14. Coverage on foot of the same routes of previous 7 censuses. 9 a.m. to 4 p.m. Fair at start, drizzling at end; ground bare; temp. range 33-45. A. F. Ganier, G. R. Mayfield, Geo. Mayfield, Jr., Philipp and Mrs. Porter, Robert Sollmann and H. S. Vaughn.—NASHVILLE: Dec. 24. Environs, including Overton Hills forest, Radnor 75 acre lake, Glendale, Lealand, Hobbs to Tyne roads, Percy Warner Parks, Bellemeade, Hillwood, Bosley Spring, Nine-mile Hill, and Cumberland river bottom at tip of Bell's Bend. Open farm lands 28%, town suburbs 5%, wooded pastures 25%, wooded hills 25%, river bank 5%, lake and shore 12%, of time consumed. Foggy in a.m., drizzling rain in p.m.; visibility poor; little or no wind; temp. range 38-47; ground bare and very wet. Birds fairly active following previous snow. 13 observers in 5 parties. Total party-hours 37½; man-hours 87½. B. H. Abernathy, Sgt. John R. Forbes, Albert F. Ganier (compiler), Robt. M. Hawkins, Robt. Hickerson, Amelia R. Laskey, G. R. Mayfield, Donald Maynard, J. A. Robins, Wm. Simpson, W. R. Spofford, Luttrell Thomas, and H. S. Vaughn.—MURFREESBORO: Dec. 24. Areas east of town. Day cloudy and foggy. 10 a.m. to 2 p.m. George Davis, Henry O. Todd and Dr. J. B. Black.—GREAT SMOKY MOUNTAINS NAT. PARK: Dec. 17. Same area as in past 7 years; circle of 7½ miles radius centering on Bull Head of Mt. LeConte, including a section of the Tenn.-N. Carolina divide from Indian Gap to Sweetheifer trail; towns of Gatlinburg and Pigeon Forge; spruce-fir forests 30%, stream courses 25%, deciduous forests 5%, abandoned fields 15%, open farm land 15%, town and suburbs 5%, and pine forests 5%. Fair; temp. range 22-58; wind variable, 1-7 m.p.h. Ground mostly bare in lowlands; 12" of snow in the high mountains; streams open in lowlands, frozen over in mountains. Altitude range 1200 to 6300 feet. Seventeen observers in 6 parties; total hours afield 29; total miles (on foot) 23. West Barber, Harvey Broome, Mr. and Mrs. Robt. Dunbar, Mrs. Muriel Hill, W. M. Johnson, Bob Johnson, Jim Johnson, Mrs. Frank Leonhard, Dr. and Mrs. Henry Meyer, Elise Morrell, Mrs. W. M. Walker, W. M. Walker (compiler), Mary Williams, Dr. Dorothy E. Williams, (members and guests of Knoxville Chapter, T.O.S.) and Mary Ruth Chiles (Nat. Park Service, Gatlinburg).—CAREYVILLE: Jan. 4. Cove Lake State Park and vicinity. 8:30 to 1 p.m. Cloudy, no wind, ground bare; temp. range 30-40. 3 miles on foot. Mr. and Mrs. W. M. Walker.—GREENEVILLE: Dec. 27 (rainy, 4 hours) and Dec. 28 (fair, 2 hours). Temp. 37-54. Reed farm and area along Lick Creek; farm woodland 50%; farm pasture 50%. One observer, Ruth Reed Nevius.—ELIZABETHTON: Dec. 24. Watauga and Doe Rivers, foot of Holston Mountain, Lynn Mountain, golf course, fields and woodlands in vicinity. 8:15 a.m. to 5:45 p.m. Cloudy; no wind; temp. range 40-55. Total hours afield 29 (on foot); total party-miles 25 (on foot). 9 observers in 6 parties. Mr. and Mrs. Fred Behrend, J. C. Browning, Dr. and Mrs. Hugo Doob, Jr., Dr. and Mrs. Lee Roy Herndon, Lee Roy Herndon, Jr., and W. F. Pearson.

THE ROUND TABLE

A RED PHALAROPE IN TENNESSEE: This member of the Sandpiper family (*Phalaropus fulicarius*) is predominantly a coastal transient and a maritime species during the winter, therefore an inland occurrence should be noted, especially when it is a first record of this Phalarope for the State of Tennessee. On Dec. 17, 1944, while the annual Christmas census of the Great Smoky Mountains Park area was being taken, one party of observers found a dead bird of this species on the road near the rear of the Park headquarters building. Mrs. Frank Leonhard of Knoxville first noticed the bird, gray and white of plumage but much soiled and somewhat damaged by passing autos. Upon later examination and dissection, with the aid of Dr. Henry Meyer, the gizzard was found to be empty except for three small pieces of grit and disintegration prevented a determination of sex. We found, after washing and drying the specimen, that it would be possible to preserve it in the form of a study skin and this was done. Before doing so, it was measured with the following results expressed in inches. Wing, 5.00; tail, 2.15; bill 0.84. No detailed description of the specimen will be given here but we would mention a few distinctive features. The feet were scallop webbed, with a small elevated hind toe; the tarsus was somewhat flattened; the head and neck were snipe-like with bill stout and flattened as compared with other Phalaropes; eye-stripe was distinct; forehead and top of head white, as were foreneck, breast and belly; back and wings gray to dark "mouse" gray. The specimen has been presented to Mr. Arthur Stupka, Park Naturalist.—W. M. WALKER, Knoxville, Tenn.

NOTE: The above specimen was borrowed for examination and after comparing it with a winter plumaged specimen in my collection and with detailed descriptions in the literature, there appeared to be no doubt as to its identity. There are a few scattered occurrences inland but it must be regarded as a very rare transient.—EDITOR.

HAWK MIGRATION OVER HUMP MOUNTAIN: To observe hawks, three members of the Elizabethton Chapter, Lee Roy Herndon, J. C. Browning and the writer, went to Hump Mountain for that purpose on October 15. Located just across the North Carolina State line, and approximately 8 miles northeast of Roan Mountain, the "Hump" is a typical "bald," with no more growth to cover its summit than a few scattered hawthorn bushes, sneezeweed and grass. The map shows its maximum altitude to be 5587 ft. The fairly steep northwest, north and northeast slopes are overgrown with deciduous trees. In the southwest, the "Hump" extends along the State line to the higher Grassy Bald Mountain which connects with Roan Mountain. To the south it slopes off gently to Horse Creek Valley. The ascent was made from Elk Park in North Carolina after a ride through scenic Doe River Gorge on "Tweetsie," a narrow gauge railroad. Crisp air and an almost cloudless sky produced ideal weather conditions. The beauty of the day was enhanced by the autumn colors of the trees' foliage in which the surrounding mountains were clad.

Observations were as satisfactory as could have been expected. Altogether 15 Hawks were seen, among them 4 Red-tailed, 2 Cooper's, 2 Marsh, and one, what appeared to be, Sharp-shinned which swished by behind the observers while they were watching another Hawk. Identification of the rest was prevented by the distance at which they were seen. The list also included a Turkey Vulture. Early in the morning, from the train, an Osprey was observed flying upstream above Doe River Gorge. As it kept pace with the train, a good view was had of it.

Other observations of interest on the trip included 2 American Pipits at an altitude of approximately 5400 ft. An element of surprise was the presence of a considerable number of Meadow Larks at altitudes of more than 5,000 feet. At a small grove of beech and maple trees at an altitude of about 5,000 feet Bluebirds and Cape May Warblers, a Myrtle Warbler and a Yellow-bellied Sapsucker were observed. In the valley, at Elk Park, Goldfinch, Field Sparrow and Palm Warbler were numerous. Here, in the morning, it was interesting to also find a Wood Pewee. The day's total count was about 30 species.—FRED W. BEHREND, Elizabethton, Tenn.

MIGRATION OF YOUNG BARN OWLS: From 1939 to 1943, William Simpson has made periodic searches in the Nashville area for Barn Owls (*Tyto alba pratincola*). See MIGRANT 1939, 10:76 and 1942, 13:57. His first nesting record was obtained in the Belle Meade section when 2 young birds and 3 eggs were found in a hollow tree on April 15, 1939. He banded the incubating female that day and, on May 17, banded her 3 nestlings of varying sizes. The following winter, Feb. 12, 1940, the youngest of the brood was reported by Fish and Wildlife Service, Washington, D. C., as "found" in Foley, Alabama, 400 miles south of its birthplace.

In this same cavity, Wm. Simpson and Conrad Jamison banded another brood of 3 of varying sizes on June 19, 1943. A report from Washington has recently come to me with information that one of this brood was shot on Feb. 27, 1944 at Columbia, Alabama, 350 miles south of Nashville. Thus, from the 16 nestlings banded here, 2 (12.5 per cent) have furnished data on their movements. Both places of recovery are in the extreme southern part of the Alabama. Foley is in the southwestern section, about 10 miles from the Gulf of Mexico and 12 from Mobile Bay; Columbia is in the southeastern corner and 20 miles from the Florida boundary line. It is significant that the recoveries, 3 years apart, should both occur in February in the same area.

H. P. Ijams, Knoxville, Tennessee (1924, *Wilson Bull.* 36(1):27) published the following note: "On July 28, 1923, I freed two young Barn Owls which had been raised by hand, and on Dec. 27, 1923, one of them was reported to have been shot at Opp, in southern Alabama. This point is 75 miles from the coast and 350 miles south of Knoxville."

To date, no recoveries have been reported of the 6 adults, banded in three separate localities in the Nashville area, but two of them have been retrapped in subsequent breeding seasons in their respective nest cavities. One with a brood had been banded in winter and retaken with eggs the following spring; the other was taken in two spring nesting seasons.

These data augment those given by A. B. Bent in *Life Histories of North American Birds of Prey, Part 2* (1938, Smithsonian Inst., Washington, D. C.) He says (p. 152): "Records of the recoveries of banded Barn Owls show that

certain individuals make lengthy flights that appear to be more or less seasonal. The data are more numerous from the eastern part of the range and thus far the evidence pertains only to travels from breeding grounds to more southern points. In practically every case the record concerns a bird banded as a fledging in the nest." He cites several instances of birds banded in New Jersey in early summer taken in winter in North Carolina, South Carolina, and Georgia. He also mentions records of banded birds moving from Wisconsin to Arkansas, from Illinois to Mississippi, and from Pennsylvania to Georgia.

The Knoxville record and our two in Nashville, moving from Tennessee to Alabama, add to the evidence that young Barn Owls migrate to the south in winter and older birds remain on their breeding grounds as permanent residents.—AMELIA R. LASKEY, Graybar Lane, Nashville 4, Tenn.

AN ALBINO GREAT HORNED OWL: During November, 1944, I learned of a specimen of the above mentioned owl (*Bubo v. virginianus*) that was being held in confinement at Springfield, Tenn., and went there at the first opportunity to secure it. The bird was found to be in good physical condition and the owner stated that it had been caught in a steel trap the previous spring. I succeeded in purchasing the bird and some weeks later turned it over to Mrs. Amelia Laskey of Nashville, who has made studies of several species of owls kept in captivity. Dr. W. R. Spofford saw it there and states that the smaller than average size indicates a male.

This individual is not a complete albino for its plumage is not snowwhite. It is of a creamy buff shade all over and the normal feather patterns are faintly discernable in a slightly darker shade of buff. The eyelids are pinkish as well as the beak and talons. The eyes appear to be quite normal however, they being of a canary yellow in the iris with a black pupil. The pale buffy shade indicates that some pigment still exists in the plumage and this degree of albinism is as prevalent as any other. Among owls however, albinism has but rarely been recorded.—CHAS. F. PICKERING, Clarksville, Tenn.

LECONTE'S SPARROW IN LAUDERDALE COUNTY, TENN.: On April 17, 1944, the writer was exploring some weeded areas on the Halls Army Air Field and succeeded in flushing a small, yellowish-colored sparrow. It was immediately followed up and was again flushed rather easily. This performance was repeated several times and permitted close observation of the bird with 8X binoculars from a distance of about 10 feet. The bird was identified as a LeConte's Sparrow (*Passerherbulus caudacutus*) but knowing the difficulty of making positive sight records of this type of bird, the writer hesitated to report it. Instead, he sent home for additional information on this particular species and in the meantime, he had occasion to read, in THE MIGRANT, the articles on the LeConte's Sparrow at Clarksville, by Mr. Alfred Clebsch, and later talked to him about them.

On November 24, 1944, I decided to again explore this particular area to search for these birds and met with singular success. Two individuals were flushed simultaneously and they persisted in staying together in the immediate vicinity. They would perch on the weed stems about grass-top level and I, by making no readily perceptible movements, was able to observe them at my leisure for about a half an hour. Although somewhat nervous appearing, the

birds seemed comparatively tame and were approached to within 4 or 5 feet, often too close for me to use my binoculars.

I have had ample opportunity to study the fine collection of sparrow skins of James B. Young, of Louisville, Ky., and I am quite familiar with the sparrows of this region, having done much collecting myself. Observing this species here was practically the same as having a study skin in hand. The distinct grayish white median stripe, the wide pinkish-brown collar or nape, the broad stripe over the eye, and the grayish lores and ear coverts were all easily checked. One of the individuals was more highly colored than the other. And to make things more pleasant and to help in the identification, a Savannah Sparrow (*Passerculus sandwichensis*) moved to within 6 inches of one of the LeConte's Sparrows so that I could compare the colorations and the notched tail of the former against the sharp tail of the latter.

The habitat in which these sparrows were found was a grassy plot of ground approximately 50 feet from a creek. It was covered with long, dried grasses, interspersed with tall weeds and clusters of tangled vines. Although not actually in a marsh area, the ground there was low and damp due to recent rains and the natural lie of the land. On Jan. 8, 1945, during the course of taking the midwinter bird census here, I revisited the site and succeeded in finding 2 of them again. Presumably they were the same pair and it would seem they were spending the winter here. They will be visited from time to time to ascertain their presence and to see how long into spring they will remain.—CAPT. BURT L. MONROE, Army Air Base, Dyersburg, Tenn.

FIELD NOTES FROM WEST TENN.: The following records from this area of West Tennessee may be worthy of mention for the record:

Buff-breasted Sandpiper (*Tryngites subruficollis*): On Sept. 19, 1943, at a small wet-weather pond on the Air Base at Halls, two of these birds were observed as they fed around the edge of the pond and in the clods and hillocks some distance away. Having studied and collected them previously on the Falls of the Ohio, at Louisville, Ky., I am reasonably certain of their identity. They were in company with a few "Peeps."

Upland Plover (*Bartramia longicauda*): On November 13, 1943, a flock of about fifteen of these birds was seen on the Municipal Airport at Memphis. They were observed both in flight and on the ground. Their wing-raising and lowering trait was much in evidence. The lateness of their presence here coincides with a November record made at Clarksville by Mr. Alfred Clebsch.

Wood Ibis (*Mycteria americana*): One bird was seen in flight over the Halls Air Base on May 17, 1944. It appeared to be headed for a cypress swamp which lies about one mile north of the field. The bird was not extremely high and distinguishing marks could be plainly seen. The black wing tips were very noticeable and the dark head and outstretched neck precluded any confusion with any of the Herons or Egrets in the area. It is not known to nest north of Louisiana.—CAPT. BURT L. MONROE, Army Air Field, Dyersburg, Tenn.

BOB-WHITE PROTECTS HER OFFSPRING: I had stopped my car along the side of a narrow gravel road, to listen to the song of a Field Sparrow. The road was bordered on both sides by open fields, and between the road and the fields there were narrow spaces where thick weeds and

grasses grew. The voice of the Sparrow blended perfectly with the cool shadows and quietude that marked the shallow valley. Fifty feet in front of me a small creature came cautiously into the road from the weeds on the west side. At first I thought it was a baby rabbit; then I knew it was a Bob-white and it was easy to see that it was a full-grown hen. The bird took a position in the middle of the road, and remained there; then a young one—almost grown in size but of this year's crop—came hurriedly from the cover to the point where the mother stood, paused a second then rapidly half ran, half flew, to the weeds on the east. Another one came and followed the same procedure exactly; I watched them until sixteen crossed the road. The last one over, the mother disappeared with the young ones. I waited a few minutes, then drove to a point opposite the place where the birds had left the road. The entire covey were feeding on small grasshoppers in the field at a place where there were shallow rows of cotton, and pretty well covered with a growth of short grasses. The old bird remained behind the flock, seeing to it that all of them kept fairly close together; somewhat in the manner of a shepherd herding his flock.—BENJ. R. WARRINER, Corinth, Miss.

NOTES ON THE TENNESSEE WARBLER: Of more than passing interest during the fall warbler migration was the occurrence of relatively large numbers of Tennessee Warblers over an extended period in this area. The first individual was observed on Sept. 3, and by Sept. 10 they were particularly abundant. By this time they were observed in small flocks, usually consisting of 6 to 10 individuals. In most cases they were found feeding in ragweed (*Ambrosia artemisiifolia*) and horseweed (*Ambrosia trifida*) patches along roadsides and streams, but occasionally taking refuge or feeding in small isolated trees or shrubbery. By stalking, they could be approached to within 3 or 4 feet before taking flight. They remained in appreciable numbers until after the first heavy frost, about the middle of October. Not a single bird of this species was observed in this locality during the 1943 migration.—LEE R. HERNDON, Elizabethton, Tenn.

THE MEMPHIS FALL BIRD CENSUS was taken on October 22, 1944, by the local T. O. S. chapter, there being 32 participants. The localities covered were Riverside Park, thence eastward thru bottoms and along the Mississippi levee to and including Kings Woods southeast of Memphis. Time, 7 a.m. to 7 p.m. Temperature range 55-80. Results totaled 59 species and 1126 individuals, as follows:

Pied-billed Grebe 1, Double-crested Cormorant 45, Turkey Vulture 3, Cooper's Hawk 2, Red-tailed Hawk 5, Red-shouldered Hawk 3, Broad-winged Hawk 1, Marsh Hawk 3, Sparrow Hawk 4, Killdeer 25, Spotted Sandpiper 1, Mourning Dove 15, Belted Kingfisher 3, Flicker 15, Red-bellied Woodpecker 8, Red-headed Woodpecker 1, Yellow-bellied Sapsucker 2, Hairy Woodpecker 5, Downy Woodpecker 9, Phoebe 1, Horned Lark 20, Tree Swallow 50, Blue Jay 25, American Crow 15, Fish Crow 1, Carolina Chickadee 12, Tufted Titmouse 6, Brown Creeper 2, Winter Wren 1, Carolina Wren 6, Mockingbird 10, Catbird 1, Robin 30, Bluebird 2, Golden-crowned Kinglet 30, Ruby-crowned Kinglet 5, American Pipit 100, Cedar Waxwing 20, Migrant Shrike 4, Starling 25, White-eyed Vireo 1, Magnolia Warbler 1, Myrtle Warbler 30, Bay-breasted Warbler 2, Meadowlark 60, Red-wing Blackbird 200, Rusty Blackbird 20,

Bronzed Grackle 30, Cowbird 190, Cardinal 10, Goldfinch 10, Towhee 3, Savannah Sparrow 5, Vesper Sparrow 2, Slate-colored Junco 15, White-throated Sparrow 25, Swamp Sparrow 3, Song Sparrow 10.

Attention may be called to the following as being unusually late records from this area: Catbird, Spotted Sandpiper, Broad-winged Hawk and White-eyed Vireo. The Pied-billed Grebe offered more than unusual excitement for it was not until the next day after various authorities had been consulted that the possibility of an Eared Grebe was ruled out. The individual was in very odd plumage and did not conform to the field identification marks of the Pied-billed Grebe. South of the Mississippi Levee in a cotton field a few of the party flushed a Cooper's Hawk from within the plants. As the bird arose it dropped three small fragments of what later turned out to be a Meadowlark. The ground for several feet around from where it arose was sprinkled with fresh blood and bright yellow feathers from the breast of the victim.—J. SOUTHGATE Y. HOYT, Kennedy General Hospital, Memphis, Tenn.



NOTES, HERE AND THERE

The Ruby-crowned Kinglet is quite rare with us in winter but Dr. Chas. F. Pickering of Clarksville was favored with visits from one of them at his home for some weeks after mid-December. The Kinglet comes to a feeding stick—one with bored holes filled with tallow—which hangs a few feet outside a window and incidentally, became a welcomed addition to the Clarksville Xmas census. Other visitors to the "stick" and shelf were Yellow-bellied Sapsucker, Red-bellied and Downy Woodpecker, White-breasted Nuthatch, Chickadee, Carolina Wren, Mockingbird and various native sparrows.

Some of our Chattanooga bird enthusiasts, headed by Robert Sparks Walker and the new Audubon Society there, arranged an interesting publicity stunt recently, to draw attention to birds and their habits. A Catbird, whose injured wing had prevented its normal migration southward and which had been fed until mid-December at the Walker feeding shelf, was trapped and transported to Florida by plane, thus achieving its past due migration in up-to-date and luxurious style. Newspaper publicity was given at each end of the line by cleverly written stories of the "migration" and the facts leading up to it.

The keenness of eye of falcons for others of their kind was nicely demonstrated by several tamed individuals as they were perched on their blocks on Dr. Spofford's lawn. During the migration month of October, their upward gaze revealed, at different times, thirteen species of raptores, including, Black and Turkey Vultures, Sharp-shinned and Coopers Hawks, Red-tailed, Red-shouldered and Broad-winged Hawks, one Golden Eagle, the Marsh Hawk, the Osprey, one Peregrine Falcon, several Pigeon Hawks and numerous Sparrow Hawks.

Mrs. Amelia R. Laskey, of Nashville, was honored by being elevated from Associate to the class of Member in the American Ornithologists Union, at its meeting during October, 1944. Mrs. Laskey has contributed some outstanding papers on Tennessee birds for publication in *The Auk*, *The Wilson Bulletin*, *Bird Banding*, *THE MIGRANT*, and in other journals.

Dues for 1945 are due Jan. 1st. Your prompt remittance to our Treasurer will save his time and save the Society the cost of billing you.

THE MIGRANT

A QUARTERLY JOURNAL DEVOTED TO THE STUDY OF TENNESSEE BIRDS
PUBLISHED BY THE TENNESSEE ORNITHOLOGICAL SOCIETY

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*The simple truth about birds is interesting enough,
it is not necessary to go beyond it."*

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EDITORIAL CHAT

Shortly after submitting the article on Brewer's Blackbirds, published in this issue, Austin W. Burdick who was training in an infantry division of the army, was sent to England and from there to the seething war-front in Belgium. Following the heavy fighting in mid-December, he was reported "missing" as of Dec. 16. No word of his fate has come up to time of going to press. Such news as may come will be given in the next issue following. We sincerely hope that his fate is no worse than that of a prisoner of war. . . . Many of our young members are abroad by now in the armed services of their nation and from time to time we have news about them. Our information is so sporadic and fragmentary that it has been decided best to await termination of the war for comprehensive announcements. We will then dedicate an issue in which to honor these young men, to chronicle their services and to express our appreciation to them. . . . The September MIGRANT—the Chimney Swift issue—aroused more interest than any we have as yet gotten out and on behalf of those who contributed the contents, ye Editor wishes to express his appreciation for the numerous letters of commendation that came in. . . . Our efforts to obtain further information about the Swifts found wintering in Peru has so far not met with success. The American Embassy at Lima has handled our requests in a most disinterested manner, apparently not appreciating the opportunity that was being given them to assist in developing a matter of much scientific interest. . . . Though our contents are limited, we take you in this issue to the four corners of Tennessee. From the Mississippi bottoms about Memphis, 500 miles northeasterly to the mile-high Roan Mountain chain, and from the cypress lined shores of Reelfoot Lake to the tops of the Unicoi Mountains in our southeast corner. . . . We have a number of notes on hand covering nesting experiences and these are being carried over to the March issue, apropos to the opening of Spring. More notes along this line are solicited meanwhile as well as any late winter happenings of interest. . . . In closing this volume, the Editor wishes to express thanks to those who have contributed articles and census lists for its pages, to Mrs. Laskey for assisting with reading the proof, to Miss Suzanne Webb for typing some of the manuscripts, and last but not least, to Treasurer Clebsch for addressing the envelopes, for footing the bills and by otherwise "making the wheels go 'round."

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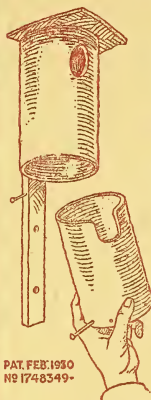
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VOL. XVI

MARCH, 1945

No. 1

NESTING OF BACHMAN'S SPARROW NEAR MEMPHIS

By J. SOUTHGATE Y. HOYT

About seven miles to the southeast of the heart of Memphis lies a small patch of woods locally known as King's Woods. These woods are unique in several respects, not the least of which is that they are unimpaired by the ever increasing population in this section of town, being very near the now present Kennedy General Hospital. Among other qualities that these woods hold, are the impressive number of large trees and the way in which but little ecological disturbance has entered this interesting area. I was first introduced to this woodlot by Miss Pauline James, an ardent birder of the Memphis chapter of the T. O. S. and I was very much impressed with the number of various habitats that are here present, even though some are of but small extent. We were at the time looking for nests that I could photograph, especially a nest of the Summer Tanager. As we passed through the woods into the partially grownup and uncut fields to the southeast, we heard the song of the Field Sparrow (*Spizella pusilla*) and remarked that they should be nesting nearby.

Having spent a few minutes in search for this nest, we were suddenly aware that off in the distance we were hearing the song of another member of the sparrow family. I had heard this song often while stationed at Charleston, S. C. and was familiar with the song of the Bachman's Sparrow, which to me is one of the sweetest singers of all the sparrows. The Bachman's Sparrow (*Aimophila aestivalis bachmani*) is a sub-species of the Pine-woods Sparrow which is the resident bird of Florida and southern Georgia. In *A Distributional List of the Birds of Tennessee* by Mr. Ganier, the Bachman's is recorded as a "rare summer resident" in west Tennessee, a "fairly common summer resident" in middle Tennessee and a "rare summer resident" in east Tennessee. In view of its status in this area I thought it would be of interest to record the following nesting record.

Having found the individual from which this beautiful song was coming, we then wanted to locate its nest to photograph. As we searched the territory in which it was singing we soon flushed another one of this same species, probably the mate. Still off in the distance we could hear at least two more singing males and thought we heard another in the woods to the back of us. At one time we heard three singing Bachman's and saw one that was not singing. Our search ended in vain that day, though we had searched every foot of ground around there. The next Sunday that I had off from work was a hot one and this time Miss James, Mrs. Hoyt and I went back to this same

spot to renew the search. In spite of the intense heat the bird was singing from a small locust not far from where we had searched so carefully the previous time. We spent some two hours thoroughly looking over the ground in all directions for the singing bird but again with no success.

On July 1 Miss James phoned me that she had luckily found the nest of the Bachman's Sparrow when she was in the woods early that morning. The following day being Sunday, I could get the day off and try my luck at photographing the birds and their nest. The latter was a remarkable structure and most effectively concealed on the ground under the dry grass and not far from where all of us had been looking so persistently. The dry grass that lay all around was so much the same color as the nesting material that one had a hard time seeing the nest unless one knew just where to look. The entire outside of the little domicile was of very light straw colored Tickle Grass or Creeping Grass (*Panicum* sp.) which was arched over the top in such a fashion that the entrance was on the side. The interior was of small pieces of a darker straw-colored grass. Approaching from the south one could look some time before he was convinced that he was looking at a nest, for the entrance was to the north. A small lip ran out beyond the entrance and the edge was raised a little from the ground so that the young were well protected and down inside the nest. There were four young of about five days of age. The parent was almost always found on the nest and stuck tight until one had approached to within a few feet. It would then jump off and run rapidly along the ground with its head down and tail drooping in such a fashion that it hardly resembled a bird at all. It almost always ran into a nearby bush and, uttering a fine squeaky cry, would run back and forth amongst the bases of the weeds and the stems of the bushes. Occasionally it would return to within a few feet of the nest and again start off into the bushes as before.

Photographs were taken with the use of a blind set at about four feet. We then retreated and left the parents to care for their young. Returning just a week later, the four young were well feathered and ready to leave and this they did immediately upon my arrival at the nest. When the young jumped out, each taking a different direction, the parents nearly went wild with excitement. Both parents called and ran around with drooping wings and tail and certainly did their best to distract my attention from the young which had by this time "frozen" on the ground.

I feel quite sure that both birds share duties of feeding the young and caring for the nest as they were always present when I approached the nest and both protested vocally as well as sat around on branches not far from the nest.

KENNEDY GENERAL HOSPITAL, MEMPHIS, TENNESSEE.



ROOSTING OF CHIMNEY SWIFTS ON BUILDINGS

By BEN B. COFFEY

During a visit to Harlingen, Texas, October, 1944, with Mr. Irby L. Davis, well known bird authority of the Brownsville-Rio Grande border region he mentioned an instance of the flocking of Chimney Swifts (*Chaetura pelagica*) on a narrow nine-story building in downtown Harlingen during the previous spring. A banded Swift had been reported taken there so I undertook to learn

the correct date that the flock was present by an inquiry among banders. With a mutual interest in the migration of Chimney Swifts through Texas, our Editor had shown on Plate 6 of the September, 1944 *MIGRANT*, two recoveries at Harlingen. Originally banded by R. J. Fleetwood and Erwin Sturgis, these proved to be members of that flock of which Mr. Davis had told me. Dr. Wm. F. Brackmeyer of Harlingen, had been fortunate enough to secure the bands from the two Swifts mentioned and he has kindly furnished me with the following interesting information.

"About 11 a.m., on May 4, 1944, a "Texas norther" (wet) arrived, although rather late in the season. The temperature dropped from 82 to 56 degrees within an hour and went to 52 that night. At about three p.m., I noticed a flock of about a thousand Chimney Swifts milling around the nine-story Rio Grande building. Quite a few of them flew into the top or fifth story of the nearby Embee building, through open windows. In trying to get out, they would fly into the glass panes of closed windows and temporarily knock themselves out. I picked up thirty or forty and released them after they had revived. On the leg of one of these I found band number 42-147555. Upon reporting this to the U. S. Fish and Wildlife Service, it proved to have been placed by Mr. R. J. Fleetwood, at Macon, Ga., on Sept. 21, 1943. Another banded Swift, which had entered a window of the Van Buren Hotel, was killed by a cat and this one had band number 42-144604. The Wildlife Service stated that this band had been placed by Mr. Erwin Sturgis, at Blind River, Ontario, Canada, on July 15, 1943.

This flock, which presumably came from the south, hit this chilly, wet norther and stopped here. They spent the night clinging to the south side and near the top of the nine-story building, in the manner of a swarm of bees. Next morning they left as the weather turned warmer and sunny. Probably not many more than the thirty or forty above mentioned were killed. Another though smaller flock—between 200 and 300—came in during the evening three days later and these I also witnessed gathering and roosting overnight in the same spot. They came in after sundown and left early next morning. However, this time the weather was good and I did not have a chance to handle any of them. There are but few chimneys in Harlingen and these are small; I did not witness the Swifts using any of these."

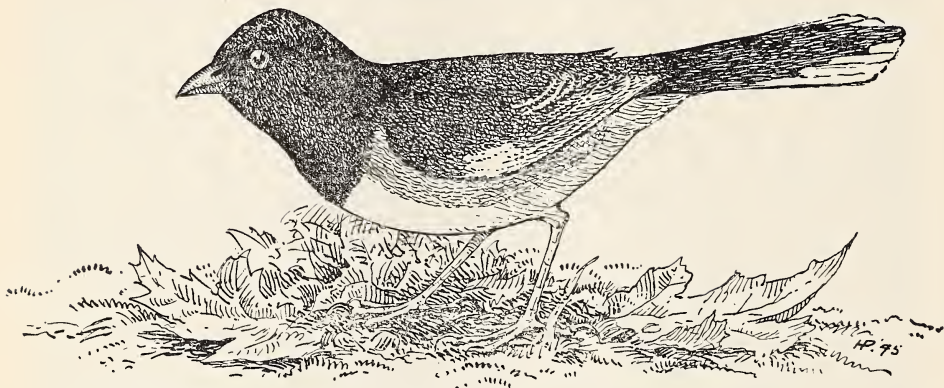
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EDITOR'S NOTE: Where Swifts roost, when they leave the chimneys of the United States and fly southward into chimneyless tropical climes, has been an unsolved question and one that continues to be of great interest. A good clue may be found in the above observation and would indicate that upon their northward arrival at our southern border they readily followed a winter formed habit of roosting on the face of cliffs, by clinging to the nearest approach obtainable, viz, the high brick walls of a building. Swifts doubtless winter over a considerable area in vast Amazonia and cliffs are to be found in at least a portion of this region as well as on the route to and from. Where there are no cliffs, however, they must roost in trees or other growth. In *THE MIGRANT* for Dec., 1936, p. 97, Captain Coffey mentions a fall flock which almost came to roost on the side of a downtown brick building in Memphis, Tenn. In *The Auk* for April, 1945, p. 275, there is mention of a species of Mexican Swift which was found roosting in numbers on the face of a cliff, behind a waterfall in the state of Vera Cruz. Just as we go to press, we are in receipt of additional information from Peru and this will be presented in our next issue.—A. F. G.

TOWHEE — BIRD OF THE BRUSHLANDS

By G. R. MAYFIELD

For more than half a century I have known and admired the "Joree", as he is called by the people of North Georgia, my native home. When a boy, I used to watch the Red-eyed Towhee (*Pipilo erythrophthalmus*) with his robin-red flanks, white underparts, and his shining black and white-marked upper parts; also his modest mate with her softer shades of brownish red and white. His call notes, *towhee*, *joree*, *chewink*, and the like are responsible for the onomatopoeic names applied to his kind in various parts of the United States.



RED-EYED TOWHEE (male), from a drawing by Harry P. Ijams.

His song is cheery and continuous from dawn to dusk, from February to September except for the molting season in August. These notes lingered in my memory vaguely until they came to a vivid reality in June of 1910. The incident took place on the bank of the Swannanoa River opposite Black Mountain Station in North Carolina, where I was engaged in some post-graduate studies. In the midst of my writing I became conscious of a new and exquisite bird song some hundred or more yards below my cabin on the mountain side. As I listened, these notes awakened childhood memories but I could not recognize the bird by the haunting sounds. Laying aside pencil and book, I rushed down to the lower side of the brushy clearing for fear the singer might cease or vanish from sight. But he was still there and in full view on top of a low bush—my boyhood "Joree" singing with all his heart and soul. For at least twenty glorious minutes I listened to his cheery preludes and those tremolo *chee-chee-chee-wees* and the memories of earlier spring days in Georgia came back in full measure. Every day that summer he sang for us and this helped to relieve the monotony of reading and research. Ten years later I began a serious study of bird songs and I found that individual Towhees vary widely in their songs, though all have enough in common to make them easily recognizable. Beethoven himself, master of variations for the same theme, would have reveled in the melodies of the Towhee. At Nashville, the top of Centennial Hill was found to be a favored spot for this species during the years

1921-1924 and a patient, attentive listener, though blindfolded, could have told on which side of the hill he was standing by the notes of individual birds. Each bird had his favorite singing tree and his own technique of rendering the familiar theme.

Of the Towhee, it may be said that "he is rooted to the soil" for his favorite feeding place is among the dry leaves and grasses on the ground. There he scratches noisily to the accompaniment of many *chewink* calls, thus communicating perhaps his luck and in return, learning of the whereabouts of his fellows. Not only does this species feed upon the ground but he often nests there as well or, not far above it.

The first nests must often be built before leaves have clothed the undergrowth and in that event, it will be constructed in a depression scratched into the surface of the ground, and where it will be partially hidden by dead weeds or fallen boughs. Later on, when second nests are built, they are nearly always placed in bushes or in a growth of thick vines. This gets them up out of the path of snakes and other predators. The nests are bulky and are strongly made, consisting of leaves below, followed by vine and weed stems, bark shreds and grasses, all uniformly lined with clean grass stems and "straw". The eggs are usually four though occasionally three in first nests and the latter number is usually found in late nests. Laying begins as early as April first in Tennessee and the last nesting occasionally runs into late July. The eggs are white, thickly covered with small brown specks. The young do not take on their mature plumage until fall, meanwhile they are brownish-drab little birds with spotted breasts and quite inconspicuous.

The Red-eyed Towhee is the form found over most of Tennessee and northward but the Alabama Towhee, a closely related subspecies, has been found to occur along our southern border and from thence southward to the Gulf coast. Our Towhees are believed to be non-migratory but their numbers in winter are augmented by individuals from the north and frequently it is found at that season in flocks of twenty and even more. They join in with flocks of Cardinals, Juncos, Whitethroats and other native sparrows, and range the brushlands, woods and creek banks.

Those who have feeding shelves find Towhees to be patrons at all seasons and in that role they are peaceful and unafraid. Particularly in the male, the rich red iris stands out clearly against the black head feathers, making him deserving of that portion of his name. About our cities and towns he frequently makes his home in suburban areas and many are the phone calls that come from people to know the name of the black-headed bird that "scratches with a hop" and makes so much noise as he does so. The Towhee is truly a bird of exemplary habits and his ever cheerful disposition make him a "first citizen" in every bird community.

WINTERING OF GOLDEN EAGLES IN TENNESSEE

By WALTER R. SPOFFORD

The pages of THE MIGRANT record many local occurrences of the Golden Eagle, (*Aquila chrysaetos canadensis*) chiefly through the untiring efforts of Mr. Ganier in securing verification of newspaper and other reports. During recent years, such reports have become fewer, due he thinks to the fact that it has become known that the State game and conservation laws extend protection to all eagles and trappers are fearful of bringing their birds in.

A section of the Murfreesboro area, lying about forty miles southeast of Nashville, has long been known as a favored winter habitat for eagles and during the past winter, Mr. Henry O. Todd of Murfreesboro got word of more than the usual number of occurrences. In the knobs in the vicinity of Auburntown, four eagles were reported to him as having been trapped and perhaps killed by farmers who claimed they had suffered from their depredations. More specific information was secured from the Pilot Knob section, near the Manchester pike, where in February a farmer living near the knobs gave Mr. Todd a large young Golden Eagle which he had trapped after it had been discovered eating a trapped red fox on the hillside above his home. The farmer reported that two eagles had been trapped and killed in the immediate area earlier in the winter and that two more had been seen circling over the knobs. This farmer spoke of "Brown" and of "Black" eagles and it is possible that the latter were immature Bald Eagles.

On February 18, 1945, Mr. Ganier, Mr. Todd and the writer visited the area around Pilot Knob and were rewarded by a fine view of an adult Golden Eagle circling above the head of the steep valley up which we were walking. The region is characterized by a chain of high, steep hills (knobs), rising about seven-hundred feet above the Murfreesboro plain. The slopes are covered by cedar-grown pasture lands mostly and the summits are usually devoid of trees. From the point of an eagle, it is probably country much to their liking; being relatively wild and uninhabited, the steep slopes furnishing obstructional air-currents of great aid in soaring flight, and also furnishing some "cover" for these large and conspicuous birds. The abundance of rabbits in this area provides an excellent food supply which is easily caught in such open pastureland. Furthermore, carrion is present, and we saw the dead remains of a cow, and further up the valley a calf, making acceptable food for the eagles. The farmers claim that the eagles are present in "lambing time" (February) and blame them for the disappearance of young lambs. This may be true, but it should be pointed out that Seton Gordon, in his remarkable book on the home life of the Golden Eagle in Scotland, states that in that country the eagles eat principally stillborns, and further, that with an abundance of lambs nearby, the eagles feed primarily on grouse, and some hares. Unfortunately, most of the local reports here are based on hearsay evidence, and it is hoped that in the next several years we can get some reliable information on what these winter eagles in middle Tennessee are eating.

On February 24, just a week after our visit to the area, the Pilot Knob farmer caught another eagle, a smaller, adult Golden Eagle, by placing traps around a dead 'possum not far from where the young female (?) had been

caught several weeks earlier. Through the kindness of Mr. Todd, I secured the custody of the birds for a period of observation before releasing. Inasmuch as these two eagles were as radically different as it would seem possible for them to be, within the limits of age and sex variation in this species, it seems worth while to describe their appearance.

The larger eagle weighed 14 lbs., with a folded wing length of 25½ in. and tail length of 14½ in. Presuming the bird to be a female, her plumage was generally dark brown with a distinct purple gloss, and all of her plumage was of fresh new looking feathers, without the age differences that are apparent after a molt has taken place. The flight feathers were much darker than the contour feathers. Most striking was the extensive white area forming the basal two-thirds of the tail, while the terminal brown band was 4 to 6 inches in width. The bases of the inner primaries was also clear white, so that in flight this type of bird displays an extensive white area in each wing, and a prominent white area at the base of the tail. Her feet were deep yellow, as was her cere and gape of her mandibles, and her eyes were brown. Her nape was tawny, from which the "golden" eagle gets its name. This bird would appear to be an unmolted immature, approximately one year old.

The second eagle weighed only 8 lbs., with a folded wing length of 23½ in. and a tail of 12 inches. Presuming the bird to be a male, his plumage was also brown but presented an astonishing mixture of new and very old feathers. Some were new with the purple gloss, others evidently much older, without the purple gloss, but in good condition, while some were faded, very pale, and so worn that the barbs were loose and could be, of slight support in the air. There was a small, clear white "epaulette" above each shoulder which was prominent only when the eagle was viewed from in front as he put his head down to feed. There was no white anywhere on wings or tail, which were very clearly barred in "Goshawk" fashion with brown and gray. Furthermore, without going into details, the pattern of old and new feathers in the primary and secondary remiges was such as to indicate that this eagle did not have a simple molt order such as in the hawk (*Accipiter*) or the slightly more complex order of the falcon (*F. rusticolus* and *peregrinus*). While the pattern of old and new feathers was symmetrical in each wing, yet pairs of new and old feathers alternated in a fashion not explicable in terms of the molts of other raptors which the writer has studied. The feet and cere were much paler yellow than the first bird, and his eyes were practically as red as those of a Goshawk.

It may be pointed out that a reading of readily available American literature offers no explanation of the mixture of old and new feathers in this second eagle. According to Forbush (Birds of Massachusetts) and Bent (Life Histories) the Golden eagle has a complete annual molt. The same statement is made in the recent authoritative "Handbook" of British birds by Witherby, et al. It would seem impossible to explain the plumage of the second eagle (above) on the basis of a complete annual molt. On the other hand, the account of Sewertzow (Russia) in 1885-'88, states that the molt is incomplete in any one year, and is complete only when the bird is three years old. At any one time, he states, the feathers are of three ages: new (with purple gloss), one year old, and two years old, the last mentioned being very

worn and faded. Nesting birds molt more slowly, and present more old feathers in their plumage than do non-breeding birds. The third molt is complete, according to Sewertzow, at 7 years, and a bird of this age may breed. This latter author also comments on the white "epaulettes" as being very rarely present. In a limited survey, I could find no reference to the latter in American literature, but it is figured in the plate by Naumann in Europe.

In conclusion, it may be pointed out that while the Golden Eagle apparently occurs regularly in winter along the eastern Highland Rim of Tennessee's "Middle Basin", these birds are probably for the most part, visitants from the far north, possibly inland Labrador. Giving some support to this theory may be mentioned the fact that last fall, sixteen (a record) were counted in one day passing over Hawk Mountain, in eastern Pennsylvania, in their migration southward, and that in October, 1944, Mr. Richard Pough, of The Audubon Society, saw seven passing along a ridge in western New Jersey.

VANDERBILT UNIVERSITY SCHOOL OF MEDICINE, NASHVILLE, TENN.



CRESTED FLYCATCHER NESTINGS

By MAMIE KNOX

Each spring, between April 21st and May 3rd, we are apprised of the arrival of our Crested Flycatcher* by the cheerful though loud and rasping call of the male. He seems to be most happy to be back again at his old home for we have had them as nesting birds in our yard in each of the past five years and think it probable that the male at least is the same individual. His call note is unmistakable but is difficult to spell into a word though *wit-whit*, or *prrip*, uttered in a high, vibrant tone, perhaps comes near to it. At other times they give the call in a lower tone that reminds one of the croak of a rainfrog.

The nest is built each year in one of the two compartments of a nest box that is erected six feet above the ground on a pole. It is near a large china-berry tree which has a good many dead limbs, some of which extend above the nest box. These limbs were a favorite place for the male to perch while the female was bringing in and arranging the nest material. Perched there, he makes an odd picture, with his rounded crest erect, an inquisitive little eye set well back from his beak and titling his head sideways when he wishes to look upward.

Last year, it was on May 14, that I saw the first material carried into the nest. This work was all done by the female, for the male was never seen to assist in this way. He was by no means disinterested however for he seemed to accompany his mate on every trip. As she entered, he would alight on a dead limb above and encouragingly give his *wit-whit* call until she emerged for another trip.

Early morning, mid-day and late afternoon, the building of the bulky nest went on and as it neared completion I imagine she became more particular about gathering her finishing materials, such as soft feathers for lining. Each

* (*Myioarchus crinitus boreus* of the current A. O. U. check list.)

day I lifted the cover and inspected the nest. On May 18, I found that the inevitable snake skin had been discovered and brought in but not as yet tucked in around the rim. The following day it was found to have been neatly woven in place. Just why these birds always include a snake skin about the rim of their nests has long been a matter of discussion.* Adding this appurtenance seems to be the finishing touch however and I have never found eggs until this had been done.

On May 25, two creamy, purple-streaked eggs had been laid and subsequently two more added. From this time on and until the young birds were ready to leave the nest the old birds kept very quiet and one would hardly know they were still about the premises. On June 21, however, the male became noisy again and it was on the afternoon of this day that the fledglings left the nest. I never saw them back in the yard after this date but sometimes I would hear them in the trees which fringed a nearby meadow.

In the spring of 1941 a pair of Mockingbirds built their nest back of the Flycatcher's box, in a rambler rose that ran along the fence. When the Flycatchers attempted to begin their nesting they were persistently driven away by the Mockingbird and this caused them to be late at beginning. As soon, however as their pugnacious neighbor had brought off her fledglings they went to work and nested successfully. It was noted that the birds occasionally brought nest material by mistake into the other compartment until they finally had a floor covering. The male was frequently seen in the unused side while his mate was incubating. Each spring I look forward to the return of our Flycatchers for they are cheerful and interesting birds to observe.

MILAN, TENNESSEE.

*EDITOR'S NOTE: Birds which nest late and in cavities, as Crested Flycatchers do, would ordinarily have their nests robbed quite frequently by snakes and flying squirrels and their practice of finishing up with a shed snake skin is rarely departed from. It would seem logical that this final touch was added to the nest to intimidate the above mentioned and perhaps other enemies, from entering. Snakes, at least during the spring season, are unsociable toward their kind, some species even preying upon others. If a snake skin is in the nest, it would be reasonable evidence to an intruder that the owner of it had been there, that perhaps the cavity was on his "regular beat", and even that the owner of it might be under the nest debris awaiting the entry of some hapless victim. Wild creatures inherently avoid entering places where they might be cornered by an enemy. Flycatchers, by posting this further notice of danger, certainly do the one thing that would help them ward off enemies against which they would otherwise be defenseless.—A.F.G.



In an early issue we hope to publish a list of holders of complete files of THE MIGRANT. Readers holding such files will kindly drop us a card so stating. We know of three members whose files lack only the March 1934 issue and they will gladly pay a dollar apiece for them. Other scarce issues are, all of 1931, March and September 1933, March and June 1934, March 1935, December 1936, March and December 1938, March 1939, June and December 1940. We would be glad to hear from those having unwanted copies of any of these.

THE ROUND TABLE

WHITE-FRONTED GEESE AT MEMPHIS:—On Sunday, March 11, 1945, 3 of the above species (*Anser albifrons gambeli*) were identified here in a flock which also included 3 Snow Geese (*Chen hyperboreus*) and about 300 Blue Geese (*Chen caerulescens*). These observations were made by Mrs. Hoyt, Miss Pauline James and the writer, using 8 power binoculars in good sunlight. The geese, presumably this flock, had arrived on March 8 and were last seen 9 days later. In watching them on March 15, at least one of the white-fronted species was again seen in the flock. The location was Mud Island which lies on the east side of the Mississippi river, at the mouth of Wolf river, from the east bank of which we were able to approach to within 100 yards of them. The island had been cleared of willows and planted in winter grass the previous fall and, although nearly covered in March by high water, there remained a narrow strip of grass upon which the geese fed. The white faces of the White-fronted Geese made them stand out from the Blues and they also appeared distinctly different in flight. At about this time, it was reported that a larger flock of geese were feeding on President's Island, a few miles downstream.—SGT. J. SOUTHGATE HOYT, Kennedy General Hospital, Memphis, Tenn.

EDITOR'S NOTE.—The above is the first definite record of White-fronted Geese in Tennessee although it had been expected that they should occur along the Mississippi as a rare and erratic transient. Many of them winter on the Louisiana-Texas Gulf coast, from whence their spring migration route follows a northwesterly course through the plains states to their nesting grounds in and about Alaska.—A.F.G.

NOTES FROM THE MEMPHIS AREA.—The season has been unduly mild with more than normal rainfall since the last week in October and this has limited the amount of field work that could be done.

Seven miles from the heart of the city, near the city limits and adjacent to the new Kennedy General Hospital, is a tract of land known as King's Woods. Several types of habitats are here represented, including second growth timber and open woods, sedge grass patches, cane thickets, hedgerows, small plowed fields and grass-plots, all drained by large ditches. This territory was found to be a favored spot during the winter months for many of the native sparrows, including the Swamp, Fox, White-throated, White-crowned, Lincoln's, Song and Field. The White-throat, White-crowned and Song were heard singing off and on all through the winter and the Fields were heard singing from mid-February on. The Lincoln's was a frequent visitor to a feeding shelf. On March 14, a Bachman's had joined the aggregation and was heard singing on that date.

Along the Mississippi river, Great Blue Herons were seen on several occasions, from the bluffs of Riverside Park, as they fed on the mudflats of President's Island. A flock of Herring and Ring-billed Gulls, varying in numbers from 40 to 60, made the northern tip of this island their headquarters, arriv-

ing after our Christmas census. Flocks of geese were first observed on March 8. (These are described in the preceding note.)

Just on the outskirts of the city, a male Pileated Woodpecker was found to be roosting regularly during early October in a large sycamore. The roost hole was on the west side, approximately 40 feet above the ground. The bird was observed coming to the roost between 5:10 and 5:30 (c.w.t.) each evening.

To date, a few of our spring migrants have arrived ahead of schedule. On Feb. 23, the first Purple Martins arrived at Mr. and Mrs. Guth's nesting boxes. Blue-gray Gnatcatchers, March 17 (Miss Pauline James). A Chimney Swift on March 18 and 35 on March 24. 150 Cedar Waxwings in Overton Park on March 19 (Keeton). A singing male Sycamore Warbler on March 25 (Sgt. and Mrs. Hoyt and Miss James). La. Water-thrush, March 28 and 31 (James, Keeton). A Philadelphia Vireo on March 31, was observed at close ranges in good light (James, Keeton). An ovenbird, March 31. A first year Male Orchard Oriole was recorded April 2 (James).—SGT. J. SOUTHGATE HOYT and LUTHER KEETON, Memphis, Tenn.

PRAIRIE HORNED LARKS NESTING IN WEST TENNESSEE: At the suggestion of our editor, the writer made an effort to ascertain whether or not the Prairie Horned Lark (*Otocoris alpestris praticola*) nested in this northeast corner of the State. Messrs. Coffey and Monk have previously reported them during the breeding season in West Tennessee, the former at the Memphis airport and the latter in May at Milan, both instances being recorded in this journal.

Throughout the months of February and March of the years 1943 and 1944, these birds were seen and their notes heard at various places on the Halls Army Air Field near here. On April 17, 1944, I listened to the song of one and surmised that it might be a nesting bird. One month later, May 17, 1944, time permitted a more thorough search of the region and three pairs of them were found in definitely established territories. Although these birds could be found singing in their respective areas at most anytime, lack of sufficient time for a search for the nests was the only thing which prevented their discovery.

In early June, three young birds were found alongside of one of the Base roads although no adults were then in evidence. But on July 17, 1944, an adult Prairie Horned Lark was observed feeding a young one. The writer watched them for perhaps twenty minutes from a distance of twenty-five feet or even closer. Although the adult busily gathered and carried food to the young one, the latter occasionally was seen to pick among the dirt and gravel of the roadside. This young bird was unquestionably of a second brood or nesting for there is no doubt that earlier broods were raised here on the Army Air Field. The above data establishes the fact that the Prairie Horned Lark is a breeding bird in West Tennessee and is perhaps a permanent resident. At the present writing, Nov. 29, 1944, these Larks are much in evidence and were noted in September and October as well.—BURT L. MONROE, Captain, U. S. Army Air Field, Dyersburg, Tenn.

NOTES FROM REELFOOT LAKE: For several days in early May, 1944, the writer was the guest of Dr. Pickering at his clubhouse on Blue Basin, at Reelfoot Lake, where the unusual bird-life of the region was enjoyed to the

fullest. On May 1 a nest of the Bald Eagle was seen to contain three large young, whose heads could be seen above the nest edge. The old eagle flew around in some excitement, and once as she perched in a tall tree she was "dive-bombed" repeatedly by a pair of Crows.

On May 4 an Osprey was seen just below the biological station boardwalk; it is possible that this bird nests around the lake, but his nest has not been recorded. Barred Owls and Red-shouldered Buzzards were common as usual, while a Red-tail was seen at the same location as recorded the two previous years. Two young Great-horned Owls were seen near where they have nested previous years. A new record, however, was the nest of a Barn Owl at Gray's Landing, on the west side of Blue Lake. At night the owl was watched as she dropped in to feed her young in a hollow tree. When she saw the observers below, she sounded a repeated high pitched scold "cleek-cleek," or "clit-clit-clit!" Perched further away a peculiar call was traced to her. This was a nighthawk-like "snarrk," difficult to describe.

Although the main heronry was not visited, some deep water wading at Otter Basin revealed that Great Blue Herons, American Egrets (and cormorants?) are again using "Little Cranetown." On the lake a few Gadwalls and Blue-winged Teal were seen, and the same small number of Scaup, and one Ring-neck. Wood Duck were present in the the wooded swamps and nearly two dozen Semipalmated Plovers fed in the wide muddy fields. A general bird list recorded over 100 species, including two Swainson's Warblers and one Golden-wing. The Veery was heard in song.—WALTER R. SPOFFORD, Nashville, Tenn.

WOODPECKERS FEEDING ON WILD GRAPES: The presence of a wild grape vine, loaded with fruit, at this time of the year, November, furnishes a fine source of material for bird study. Having discovered several in a wooded area near the Air Base, the writer has visited them on numerous occasions. A sizeable number of birds, including Hermit Thrushes, Fox Sparrows, Robins, Bluebirds, Cedar Waxwings and many others, are always in evidence and does not ordinarily appear to be worthy of much note but when they are accompanied by four species of Woodpeckers simultaneously, it may warrant a brief comment.

On November 24, 1944, I was sitting near a tall tree, the top of which was covered with the vines of the wild grape. Two Flickers were there feeding along with other birds when they were joined by a Red-bellied Woodpecker. Seconds later, a Yellow-bellied Sapsucker came in to swing upside down on a bunch of grapes as it picked them off. But when these were joined by a Pileated Woodpecker (*Ceophloeus pileatus pileatus*) the feathered gathering was thereby raised to a high point of interest.

The smaller woodpeckers did not hesitate to swing from the grape bunches but the large Pileated made a weird sight by grasping a vine in each foot and hanging upside down as it picked off the fruit. The entire scene of the many birds feeding here, with the woodpeckers dangling upside down, was remindful of the spirit and action depicted by Audubon in many of his paintings.—BURT L. MONROE, Captain, Army Air Field, Dyersburg, Tenn.

SOME OBSERVATIONS ON CHIMNEY SWIFTS: Swift banders become familiar with some traits of their birds that, although fully recorded in

the special literature on the subject, may be of interest here. Handling the birds is not nearly as dirty a job as the common dislike for soot and its association with chimneys would suggest. The banders' hands become only slightly blackened even after handling many hundreds of Swifts. They are gentle creatures that hardly struggle while they are held and the band is applied, they are totally inexperienced with the dangers that lurk on the earth's surface and of which other birds have become wary. Their tarsi are short and the tiny feet are often closed like a fist and buried in the plumage or one foot gripping the other. When children are around during banding, they delight in decorating themselves and others with live Swifts by hanging them on hats or clothing where they may stay a quarter of an hour if the person is fairly quiet. Then there are the "squealers", individual birds that with a shrill little call set many others into action. The banders use them to stir up a packed mass of cowering Swifts at the bottom of the trapping cage to prevent any birds being smothered. As a rule Swifts are quite late in going to roost and swirl out of their chimney at the break of day. This first impulse to leave must be used to trap them or else a portion of the flock will be reluctant to come out and thereby test the ingenuity of the banders to get it into the trap by the use of spotlights, clanging noises or even a little smoke. On cold days, particularly if they are dark and cloudy, Swifts may stay in till late or not come out at all, and if a bright day turns unpleasant, they will flock and "turn in" at unusual times. Several such cases have been reported in this vicinity during the spring flocking around the middle of April. I know of one instance where a cold raw temperature caused a thousand Swifts to enter a chimney in Nashville at high noon one April 11th, and they were trapped and banded the next day.—ALFRED CLEBSCH, Clarksville, Tenn.

PHILADELPHIA VIREOS IN MIGRATION: On September 23, 1944, I had found a small group of migrating Warblers in a little swamp of overcup oaks and willows in the Cumberland River bottoms when an unfamiliar song came from rather low regions. It had sweet richness and was plainly of Vireo tone color. Directly a deep-yellow fronted bird turned up among the higher Warblers swinging as nimbly as any of them from branch to branch. It proved to be a Philadelphia Vireo and made with the singing male the first of this species discovered in nine years of watching the fall migration. Careful search showed three more of these rare, small Vireos in the same swamp. The hooked bill, the thick, bluish colored feet, and the yellow under tail coverts aided more in identification than the distinction between Vireo and Warbler behavior.—ALFRED CLEBSCH, Clarksville, Tenn.

GULLS ON THE TENNESSEE RIVER:—The series of high dams built by the T.V.A. on the Tennessee River have become a popular wintering place for Herring and Ring-billed Gulls. The churning waters below, result in injured or temporarily stunned fish which form easy prey. Numerous dead fish are also thrown out of the power houses where they have become lodged on the strainers. The lock walls and concrete power house substructures form a convenient resting place between flights and the latter afford a safe roosting place at night. On February 27, 1945, while passing through the locks of the Gunter'sville, Ala., dam, I counted a score of Herring Gulls resting on the lock walls or flying nearby and across the river, on the power house founda-

tion, were about 80 more gulls, the identify of which, as between the above mentioned species, could not be determined. I was told that numbers had been present there all winter. Similar reports have come to me from several of the other dams.—ALBERT F. GANIER, Nashville, Tenn.

A DUCK HAWK EYRIE ON THE TENNESSEE RIVER:—On February 27, 1945, the writer observed a Duck Hawk or Peregrine Falcon (*Falco peregrinus anatum*) perched on its nesting ledge on Paint Rock Bluff, overhanging the Tennessee River. This site is eleven miles northwest of Guntersville, Ala. The bird was viewed from the deck of a steamboat as it passed upstream, a few hundred feet away and with 8-power binoculars, its markings could plainly be seen. As the boat approached, one of them was seen flying about the face of the cliff and this may or may not have been the same bird seen perched as I came opposite. On the nest ledge were two loose boulders, behind which there was probably a suitable place for the eggs. These boulders, on one of which the bird was perched, were whitened with excreta as well as the face of the cliff just below, thus giving evidence of constant usage. Mr. A. H. Howell in his "Birds of Alabama", 1924, p. 140, mentions the Ft. Deposit cliff (5 mi. N-N-W of Guntersville) as a nesting site. He wrote that "at Ft. Deposit, Marshall Co., Ala., on the Tennessee River, I saw two Duck Hawks, June 18, 1913, and was informed by a resident of the locality that the birds had nested for many years in the high cliffs along the river. One of the birds observed was flying over the river and the other was flushed at dusk from the face of the cliff." Paint Rock Bluff is a massive and spectacular cliff that rises perhaps 300 feet and immediately above the water. Its name is derived from its varied shades of sepia and brown, surmounted with an ever-green brow of green cedar. The cliff faces south. The nest ledge would be quite inaccessible without the use of extensive rigging and tackle.—ALBERT F. GANIER, Nashville, Tenn.

SPRING MIGRATION AT NASHVILLE:—Due to an unusually warm March, early vegetation advanced rapidly and some of the early migrants came earlier than usual while early nesters began nidification prematurely.—Mrs. Amelia Laskey reports the following migration data: March 6, Brown Thrasher, Chipping Sparrow 3, and Phoebe 2; 3/16, Vesper Sparrow 2, La. Water-thrush 2; 3/17, Bachman's Sparrow; 3/25, White-eyed Vireo; 3/26, Blue-gray Gnatcatcher and Black-and-white Warbler (both common); 3/29, Chimney Swift (flock of 12 at 7 a. m., Ward-Belmont school); 3/30, Red-eyed Vireo and Solitary Sandpiper. Her March nest records were: Bluebirds, first egg laid 3/11, in another nest 5 eggs hatched 3/28 and on 3/26, 35 of 56 nest boxes in Warner Park were found to contain eggs; Carolina Chickadee, on 3/24, first egg laid of a set of 6; Red-eyed Towhee, first of 3 eggs laid on 3/24; Phoebe, on 3/30, 3 nests with 4, 4, and 1 eggs found; Brown Thrasher, on 3/30 the first 2 eggs of a set had been laid and Robin, 2 eggs on 3/29 and 1 on 3/31.—G. R. Mayfield reported Blue-gray Gnatcatcher, Purple Martin, La. Water Thrush and Black-and-white Warbler on 3/24; White-eyed Vireo on 3/25; Chimney Swift on 3/27; Sycamore Warbler on 3/28 and Bachman's Sparrow on 3/31.—W. R. Spofford reported Woodcock on 2/19 and heard its twilight flight song on 3/12; Bachman's Sparrow (several in song) and many Vesper Sparrows on 3/24; Blue-gray Gnatcatcher,

Cowbird and Black-and-white Warbler on 3/25. On 3/26, the Sparrow Hawk nesting in his yard had begun to incubate and a Bluebird began the following day.—Dr. Katherine Anderson reported a La. Water-thrush on March 16.—A.F.G.



REVIEWS

THE BIRDS OF GEORGIA, A preliminary Checklist and Bibliography of Georgia Ornithology. Compiled by Earle R. Greene, William Griffin, Eugene P. Odum, Herbert L. Stoddard and Ivan R. Tompkins. (Pub. for Ga. Ornith. Society, by Univ. of Ga. Press, Athens, Ga. \$2.00).—An annotated distributional list of the 400 species and subspecies of birds that have been recorded in Georgia covers 42 of the 111 pages in this useful reference book. This list is followed by a hypothetical list of 23 pieces. (Georgia's avian population is considerably augmented by its oceanic coastline). Thirty-two pages are devoted to a bibliography of all known papers that have been published on the birds of the State and the value of this section is measurably increased by its annotated form. An historical narrative, by Dr. Eugene Murphy, outlines the activities and writings of those who have been active in developing Georgia's ornithology. The excellent state map which is included, shows counties, topographic divisions, and the points most frequently referred to in the text. This is a feature that should be included in all such lists and state bird books. The volume is bound in cloth, printed on good paper and the typography is excellent. The reviewer's only criticism is the lack of a condensed species index which would save time for the user. The work of compilation was entrusted to a committee of five careful and conscientious Georgia ornithologists and they have here done a splendid job, thus laying a firm basis upon which to build further. The checklist is to be used to supplement the standard bird guides and handbooks and should be in the hands of all bird students interested in distribution.—A.F.G.



NOTES, HERE AND THERE

The chairman of our Endowment Fund Committee, Mr. B. H. Abernathy, announces the recent receipt of forty dollars which was raised and contributed to that fund by our Memphis chapter. When \$450 has been raised, it will be matched by an equal amount being held in trust and from there on to our first thousand should be an easy step. The T.O.S. has proven itself to be a going institution with an expanding program and it is therefore a worthy cause for donations and for legacies. Mr. Abernathy would like to get in touch with prospective donors; his address is Hobbs Road, Nashville 5, Tenn.

Notice of a proposed constitutional change, to make the payment of fifty dollars cover the dues of Life Members, will be presented at the annual meeting of the Society at Nashville, on May 6, 1945, and will be finally acted upon at a subsequent time. Any comments on the proposed action should be addressed to our Treasurer who will in turn transmit them to our President. Meanwhile, Life Memberships will be tentatively accepted at the rate mentioned.

THE MIGRANT

A QUARTERLY JOURNAL DEVOTED TO THE STUDY OF TENNESSEE BIRDS
PUBLISHED BY THE TENNESSEE ORNITHOLOGICAL SOCIETY

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Publication of THE MIGRANT was begun, March 1930.

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LOST, IN THE NATION'S ARMED FORCES

Pfc. AUSTIN W. BURDICK, Germantown, Shelby County, Tenn.
Reported missing in action, December 18, 1944, in Belgium;
later, officially reported as killed in this action.

1st Sgt. LEWIS FRELAN GODDARD, Fountain City, Tenn.
Killed in action in France, August 7, 1944.

Pvt. CONRAD HASTON JAMISON, JR., Nashville, Tenn.
Killed in action in Germany, February 25, 1945.

2nd Lieutenant JOE T. MASON, JR., Memphis, Tenn.
Killed in action, in Germany, February 18, 1945.

Sgt. BENJAMIN C. WELCH, JR., Memphis, Tenn.
Killed in France (with the Rangers), October 30, 1944.



It is with poignant sorrow that we must record the passing of these splendid young men and fellow members. They were all promising young ornithologists and the Society as well as their friends will keenly feel their untimely loss. In a future issue, there will be published a biographical sketch of each.

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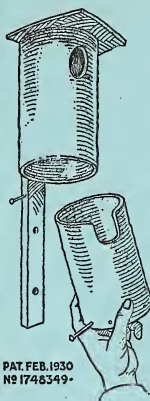
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THE WILD TURKEY

Taken from THE AMERICAN ORNITHOLOGY BY WILSON AND BONAPARTE

(EDITOR'S NOTE:—One of Tennessee's most splendid birds is the Wild Turkey (*Meleagris gallopavo silvestris*), now quite rare except in very thinly inhabited parts of the State. So rare in fact has it now become that it would be impossible to currently gather enough observations to write its life history from them. For such a history, we must go back to early times, when turkeys were abundantly distributed thruout the land and when ornithologists like Wilson, Audubon and Bonaparte were present and eager spectators at Nature's vast and unspoiled stage, in search of ornithological knowledge. At the time of Alexander Wilson's death in 1813, the "father of American ornithology" had completed the eighth and part of the final volume of his great work, but he had postponed his history of the Wild Turkey because he had felt that as yet, he was not ready to do justice to it. His work was taken up and continued by Prince Charles Lucien Bonaparte and he, with the aid of other competent observers, produced in 1825, the turkey chapter which appeared in later editions of "The American Ornithology". Among the assisting observers was John J. Audubon, who for seventeen years had been studying birds in Kentucky and in Louisiana. It is highly probable that the greater portion of the excerpts which follow were those contributed by Audubon from the vast fund of his own experiences in the above mentioned states as well as in Tennessee and in Mississippi. Since few of our readers have access to "The American Ornithology", the Editor takes the liberty to reproduce here that portion of the turkey chapter which pertains to the habits of these unique birds. The style of writing is quaint, being typified by the flourish and detail which characterized the literature of that day.)

"We have neglected no means of obtaining information from various parts of the Union, relative to this interesting bird; and having been assisted by the zeal and politeness of several individuals, who, in different degrees, have contributed to our stock of knowledge on this subject, we return them our best thanks. We have particular satisfaction in acknowledging the kindness of Mr. John J. Audubon, from whom we have received a copious narrative, containing a considerable portion of the valuable notes collected by him, on this bird, during twenty years that he has been engaged in studying Ornithology, in the only book free from error and contradiction, the great book of nature. His observations, principally made in Kentucky and Louisiana, proved the more interesting, as we had received no information from those states: we have, in consequence, been enabled to enrich the present article with several

Our frontispiece is a reproduction of the engraving by Lawson of a pair of Wild Turkeys and is taken from the American Ornithology.

new details of the manner and habits of the Wild Turkey.

The Wild Turkeys do not confine themselves to any particular food; they eat maize, all sorts of berries, fruits, grasses, beetles; and even tadpoles, young frogs, and lizards, are occasionally found in their crops; but where the pecan nut is plenty, they prefer that fruit to any other nourishment: their more general predilection is, however, for the acorn, on which they rapidly fatten. When an unusually profuse crop of acorns is produced in a particular section of country, great numbers of Turkeys are enticed from their ordinary haunts in the surrounding districts. About the beginning of October, while the mast still remains on the trees, they assemble in flocks, and direct their course to the rich bottom lands. At this season, they are observed, in great numbers, on the Ohio and Mississippi. The time of this irruption is known to the Indians by the name of the *Turkey month*.

The males, usually termed *gobblers*, associate in parties numbering from ten to a hundred, and seek their food apart from the females; whilst the latter either move about singly with their young, then nearly two-thirds grown, or, in company with other females and their families, form troops, sometimes consisting of seventy or eighty individuals, all of whom are intent on avoiding the old males, who, whenever opportunity offers, attack and destroy the young, by repeated blows on the skull. All parties, however, travel in the same direction, and on foot, unless they are compelled to seek their individual safety by flying from the hunter's dog, or their march is impeded by a large river. When about to cross a river, they select the highest eminences, that their flight may be the more certain; and here they sometimes remain for a day or more, as if for the purpose of consultation, or to be duly prepared for so hazardous a voyage. During this time the males *gobble* obstreperously, and strut with extraordinary importance, as if they would animate their companions, and inspire them with the utmost degree of hardihood: the females and young also assume much of the pompous air of the males, the former spreading their tails, and moving silently around. At length the assembled multitude mount to the tops of the highest trees, whence, at a signal note from a leader, the whole together wing their way towards the opposite shore. All the old and fat ones cross without difficulty, even when the river exceeds a mile in width; but the young, meagre, and weak, frequently fall short of the desired landing, and are forced to swim for their lives: this they do dexterously enough, spreading their tails for a support, closing their wings to the body, stretching the neck forwards, and striking out quickly and forcibly with their legs. If, in thus endeavoring to regain the land, they approach an elevated or inaccessible bank, their exertions are remitted, they resign themselves to the stream, for a short time, in order to gain strength, and then, with one violent effort, escape from the water. But in this attempt all are not successful; some of the weaker, as they cannot rise sufficiently high in air to clear the bank, fall again and again into the water, and thus miserably perish. Immediately after these birds have succeeded in crossing a river, they for some time ramble about without any apparent unanimity of purpose, and a great many are destroyed by the hunters, although they are then least valuable.

When the Turkeys have arrived in their land of abundance, they disperse in small flocks, composed of individuals of all sexes and ages intermingled, who

devour all the mast as they advance; this occurs about the middle of November. It has been observed, that, after these long journeys, the Turkeys become so familiar as to venture on the plantations, and even approach so near the farm-houses as to enter the stables and corn-cribs, in search of food: in this way they pass the autumn, and part of the winter. During this season great numbers are killed by the inhabitants, who preserve them in a frozen state, in order to transport them to a distant market.

Early in March they begin to pair; and, for a short time previous, the females separate from, and shun their mates, though the latter pertinaciously follow them, uttering their gobbling note. The sexes roost apart, but at no great distance, so that when the female utters a call, every male within hearing responds, rolling note after note, in the most rapid succession; not as when spreading the tail and strutting near the near, but in a voice resembling that of the Tame Turkey, when he hears any unusual or frequently repeated noise. Where the Turkeys are numerous, the woods from one end to the other, sometimes for hundreds of miles, resound with this remarkable voice of their wooing, uttered responsively from their roosting places. This is continued for about an hour; and, on the rising of the sun, they silently descend from their perches, and the males begin to strut, for the purpose of winning the admiration of their mates.

If the call be given from the ground, the males in the vicinity fly towards the individual, and, whether they perceive her or not, erect and spread their tails, throw the head backwards, distend the comb and wattles, strut pompously, and rustle their wings and body feathers, at the same moment ejecting a puff of air from the lungs. Whilst thus occupied, they occasionally halt to look out for the female, and then resume their strutting and puffing with as much rapidity as the nature of their gait will admit. During this ceremonious approach the males often encounter each other, and desperate battles ensue, when the conflict is only terminated by the flight or death of the vanquished.

(Here follows in some detail a description of the completion of the courtship procedure which ends in their becoming mated for the season.)

One or more females, thus associated, follow their favorite, and roost in his immediate neighborhood, if not on the same tree, until they begin to lay, when they change their mode of life, in order to save their eggs, which the male uniformly breaks if in his power, that the female may not be withdrawn from the gratification of his desires. At this time the females shun the males during the greater part of the day: the latter become clumsy and careless, meet each other peacefully, and so entirely cease to gobble, that the hens are obliged to court their advances, calling loudly and almost continually for them. The female may then be observed caressing the male, and imitating his peculiar gestures, in order to excite his amorousness.

The cocks, even when on the roost, sometimes strut and gobble, but more generally merely elevate the tail, and utter the *puff*, on which the tail and other feathers suddenly subside. On light or moon-shining nights, near the termination of the breeding season, they repeat this action, at intervals of a few minutes, for several hours together, without rising from their perches.

The sexes then separate; the males, being much emaciated, cease entirely to gobble, retire and conceal themselves by prostrate trees, in secluded parts of

the forest, or in the almost impenetrable privacy of a cane-brake. Rather than leave their hiding places, they suffer themselves to be approached within a short distance, when they seek safety in their speed of foot: at this season, however, they are of no value to the hunter, being meagre and covered with ticks. By thus retiring, using very little exercise, and feeding on peculiar grasses, they recover their flesh and strength, and when this object is attained, again congregate and recommence their rambles."

(It might have been added that this period of retirement is brought about by the necessity of moulting the flight feathers; during the course of the moult, these heavy short-winged birds would be unable to rise in flight and thus seek safety in the tree-tops.—Ed.)

"About the middle of April, when the weather is dry, the female selects a proper place in which to deposit her eggs, secured from the encroachment of water, and, as far as possible, concealed from the watchful eye of the Crow: this crafty bird spies the hen going to her nest, and having discovered the precious deposit, waits for the absence of the parent, and removes every one of the eggs from the spot, that he may devour them at leisure. The nest is placed on the ground, either on a dry ridge, in the fallen top of a dead leafy tree, under a thicket of sumach or briars, or by the side of a log; it is of a very simple structure, being composed of a few dried leaves. In this receptacle the eggs are deposited, sometimes to the number of twenty, but more usually from nine to fifteen; they are whitish, spotted with reddish-brown, like those of the domestic bird. Their manner of building, number of eggs, period of incubation, &c., appear to correspond throughout the Union, as I have received exactly similar accounts from the northern limits of the Turkey range, to the most southern regions of Florida, Louisiana, and the western wilds of Missouri.

The female always approaches her nest with great caution, varying her course so as rarely to reach it twice by the same route; and, on leaving her charge, she is very careful to cover the whole with dry leaves, with which she conceals it so artfully, as to make it extremely difficult, even for one who has watched her movements, to indicate the exact spot: hence few nests are found, and these are generally discovered by fortuitously starting the female from them, or by the appearance of broken shells, scattered around by some cunning Lynx, Fox, or Crow. When laying or sitting, the Turkey hen is not readily driven from her post by the approach of apparent danger; but if an enemy appears, she crouches as low as possible, and suffers it to pass. A circumstance related by Mr. Audubon, will show how much intelligence they display on such occasions: having discovered a sitting hen, he remarked that, by assuming a careless air, whistling, or talking to himself, he was permitted to pass within five or six feet of her; but, if he advanced cautiously, she would not suffer him to come within twenty paces, but ran off twenty or thirty yards with her tail expanded, when, assuming a stately gait, she paused on every step, occasionally uttering a chuck. They seldom abandon their nests on account of being discovered by man, but should a snake or any other animal suck one of the eggs, the parent leaves them altogether. If the eggs be removed, she again seeks the male and recommences laying, though otherwise she lays but one nest of eggs during the season. Several Turkey hens sometimes associate, perhaps for mutual safety, deposit their eggs in the same

nest, and rear their broods together. Mr. Audubon once found three females sitting on forty-two eggs. In such cases, the nest is constantly guarded by one of the parties, so that no Crow, Raven, nor even Polecat, dares approach it.

The mother will not forsake her eggs, when near hatching, while life remains; she will suffer an enclosure to be made around and imprison her, rather than abandon her charge. Mr. Audubon witnessed the hatching of a brood, while thus endeavoring to secure the young and mother. "I have lain flat," says he, "within a very few feet, and seen her gently rise from the eggs, look anxiously towards them, chuck with a sound peculiar to the mother on such an occasion, remove carefully each half empty shell, and with her bill caress and dry the younglings, that already stand tottering and attempting to force their way out of the nest."

When the process of incubation is ended, and the mother is about to retire from the nest with her young brood, she shakes herself violently, picks and adjusts the feathers about the belly, and assumes a different aspect; her eyes are alternately inclined obliquely upwards and sideways; she stretches forth her neck, in every direction, to discover birds of prey or other enemies; her wings are partially spread, and she softly clucks to keep her tender offspring close to her side. They proceed slowly, and, as the hatching generally occurs in the afternoon, they sometimes return to pass the first night in the nest. While very young, the mother leads them to elevated dry places, as if aware that humidity, during the first few days of their life, would be very dangerous to them, they having then no other protection than a delicate, soft, hairy down. In very rainy seasons Wild Turkeys are scarce, because, when completely wetted, the young rarely survive.

At the expiration of about two weeks, the young leave the ground on which they had previously reposed at night under the female, and follow her to some low, large branch of a tree, where they nestle under the broadly curved wings of their vigilant and fostering parent. The time then approaches in which they seek the open ground or prairie land during the day, in search of strawberries, and subsequently of dewberries, blackberries, and grasshoppers, thus securing a plentiful food, and enjoying the influence of the genial sun. They frequently dust themselves in shallow cavities of the soil or on ant-hills, in order to clean off the loose skin of their growing feathers, and rid themselves of ticks and other vermin.

The young Turkeys now grow rapidly, and in the month of August, when several broods flock together, and are led by their mothers to the forest, they are stout and quite able to secure themselves from the unexpected attacks of Wolves, Foxes, Lynxes, and even Cougars, by rising quickly from the ground, aided by their strong legs, and reaching with ease the upper limbs of the tallest tree. Amongst the numerous enemies of the Wild Turkey, the most dreaded are the large diurnal and nocturnal birds of prey, and the Lynx (*Felis rufa*), who sucks their eggs, and is extremely expert at seizing both parent and young: he follows them for some distance, in order to ascertain their course, and then, making a rapid circular movement, places himself in ambush before them, and waits until, by a single bound, he can fasten on his victim.

The following circumstances are related by Bartram: "Having seen a flock

of Turkeys at some distance, I approached them with great caution; when, singling out a large cock, and being just on the point of firing, I observed that several young cocks were affrighted, and in their language warned the rest to be on their guard against an enemy, who I plainly perceived was industriously making his subtle approaches towards them, behind the fallen trunk of a tree, about twenty yards from me. This cunning fellow-hunter was a large fat Wild Cat, or Lynx; he saw me, and at times seemed to watch my motions, as if determined to seize the delicious prey before me; upon which I changed my object, and levelled my piece at him. At that instant my companion, at a distance, also discharged his piece, the report of which alarmed the flock of Turkeys, and my fellow-hunter, the Cat, sprang over the log, and trotted off."

These birds are guardians of each other, and the first who sees a Hawk or Eagle gives a note of alarm, on which all within hearing lie close to the ground. As they usually roost in flocks, perched on the naked branches of trees, they are easily discovered by the large Owls, and, when attacked by these prowling birds, often escape by a somewhat remarkable manoeuvre. The Owl sails around the spot to select his prey; but, notwithstanding the almost inaudible action of his pinions, the quick ear of one of the slumberers perceives the danger, which is immediately announced to the whole party by a *chuck*; thus alarmed, they rise on their legs, and watch the motions of the Owl, who, darting like an arrow, would inevitably secure the individual at which he aimed, did not the latter suddenly drop his head, squat, and spread his tail over his back; the Owl then glances over without inflicting any injury, at the very instance that the Turkey suffers himself to fall headlong towards the earth, where he is secure from his dreaded enemy.

On hearing the slightest noise, Wild Turkeys conceal themselves in the grass, or among shrubs, and thus frequently escape the hunter, or the sharp-sighted birds of prey. The sportsman is unable to find them during the day, unless he has a dog trained for the purpose; it is necessary to shoot them at a very short distance, since, when only wounded, they quickly disappear, and, accelerating their motion by a sort of half flight, run with so much speed, that the swiftest hunter cannot overtake them. The traveller, driving rapidly down the declivity of one of the Alleghanies, may sometimes see several of them before him, that evince no urgent desire to get out of the road; but, on alighting, in hopes of shooting them, he soon finds that all pursuit is vain.

In the spring, when the males are much emaciated by their attendance on the females, it sometimes may happen that, in cleared countries, they can be overtaken by a swift cur-dog, when they will squat, and suffer themselves to be caught by the dog, or hunter who follows on horseback. But from the knowledge we have gained of this bird, we do not hesitate to affirm, that the manner of running down Turkeys, like Hares or Foxes, so much talked of, is a mere fable, as such a sport would be attended with very trifling success. A Turkey hound will sometimes lead his master several miles, before he can a second time *flush* the same individual from his concealment; and even on a fleet horse, after following one for hours, it is often found impossible to *put it up*. During a fall of melting snow, Turkeys will travel extraordinary distances, and are often pursued in vain by any description of hunters; they have then a long, straddling manner of running, very easy

to themselves, but which few animals can equal. This disposition for running, during rains, or humid weather, is common to all gallinaceous birds.

The males are frequently decoyed within gunshot, in the breeding season, by forcibly drawing the air through one of the wing bones of the Turkey, producing a sound very similar to the voice of the female: but the performer on this simple instrument must commit no error, for Turkeys are quick of hearing, and, when frequently alarmed, are wary and cunning. Some of these will answer to the call without advancing a step, and thus defeat the speculations of the hunter, who must avoid making any movement, inasmuch as a single glance of a Turkey may defeat his hopes of decoying them. By imitating the cry of the Barred Owl (*Strix nebulosa*), the hunter discovers many on their roosts, as they will reply by a gobble to every repetition of this sound, and can thus be approached with certainty, about daylight, and easily killed.

Wild Turkeys are very tenacious of their feeding grounds, as well as of the trees on which they have once roosted. Flocks have been known to resort to one spot for a succession of years, and to return after a distant emigration in search of food. Their roosting place is mostly on a point of land jutting into a river, where there are large trees. When they have collected at the signal of a repeated gobbling, they silently proceed towards their nocturnal abodes, and perch near each other: from the numbers sometimes congregated in one place, it would seem to be the common rendezvous of the whole neighborhood. But no position, however secluded or difficult of access, can secure them from the attacks of the artful and vigilant hunter, who, when they are all quietly perched for the night, takes a stand previously chosen by daylight; and, when the rising moon enables him to take sure aim, shoots them down at leisure, and, by carefully singling out those on the lower branches first, he may secure nearly the whole flock, neither the presence of the hunter, nor the report of his gun, intimidating the Turkeys, although the appearance of a single Owl would be sufficient to alarm the whole troop; the dropping of their companions from their sides excites nothing but a buzzing noise, which seems more expressive of surprise than fright. This fancied security, or heedlessness of danger, while at roost, is characteristic of all the gallinaceous birds of North America.

The more common mode of taking Turkeys is by means of *pens*, constructed with logs, covered in at top, and with a passage in the earth under one side of it, just large enough to admit an individual when stooping. The ground chosen for this purpose is generally sloping, and the passage is cut on the lower side, widening outwards. These preparations being completed, Indian corn is strewed for some distance around the pen, to entice the flock, which, picking up the grain, is gradually led towards the passage, and thence into the enclosure, where a sufficient quantity of corn is spread to occupy the leader until the greater part of the Turkeys have entered. When they raise their heads and discover that they are prisoners, all their exertions to escape are directed upwards and against the sides of the pen, not having sagacity enough to stoop sufficiently low to pass out by the way they entered; and thus they become an easy prey, not only to the experienced hunter, but even to the boys on the frontier settlements.

In proportion to the abundance or scarcity of food, and its good or bad quality, they are small or large, meagre or fat, and of an excellent or in-

different flavor: in general, however, their flesh is more delicate, more succulent, and better tasted, than that of the Tame Turkey: they are in the best order late in the autumn, or in the beginning of winter. The Indians value this food so highly, when roasted, that they call it "the white man's dish," and present it to strangers as the best they can offer.

The Indians make much use of their tails as fans; the women weave their feathers with much art, on a loose web made of the rind of the Birch tree, arranging them so as to keep the down on the inside, and exhibit the brilliant surface to the eye. A specimen of this cloth was in the Philadelphia Museum; it was found enveloping the body of an Indian female, in the great Saltpetre cave of Kentucky."

(Included in the several pages that follow are some interesting figures on Wild Turkey weights. Regarding that of the males "15 to 20 pounds may be considered a fair statement of their medium weight, but birds of 30 pounds are not very rare and I have ascertained the existence of some weighing 40. Mr. Audubon informs us, he saw one in the Louisville market that weighed 36 pounds and that the pectoral appendage (beard) of this bird measured more than a foot in length.")



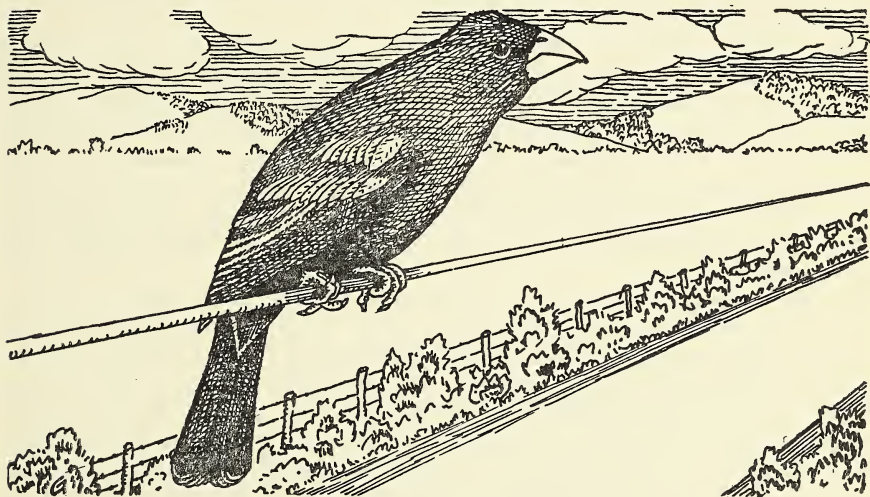
SOME OBSERVATIONS ON THE BLUE GROSBEAK

By BENJ. R. WARRINER

In former years I have come across the Blue Grosbeak only on two occasions. Two males were seen in a heavily wooded bottom, near Corinth April 18, 1937. Again, a few days later I found some three or four in a thicket of tall willows about a mile up-creek in the same woods. Identification of the first two was positive; but about the others I have been a little doubtful, as the birds flew away after I had only a glimpse of them. Since that time I have been looking for the Blue Grosbeak in the bottoms where trees are abundant; but now I have concluded that terrain of that kind is not as good as open meadows and low-lying fields where there is a plentiful growth of tall reeds and grasses, interspersed with last year's dead corn stalks and cotton stalks. On April 22, 1944, in late afternoon, I had parked my car on the side of the road that crosses Cane Creek, four miles west of town. A variety of birds were near, and my particular attention was centered on the Dickcissels that were scattered up and down the meadow that bordered the creek. On a telephone wire there was perched a plain, blackish looking bird that might have been a Cowbird, or other member of the blackbird tribe. It flew down into the tall reeds that bordered the road; I flushed it and as it flew away I discovered a tinge of dark blue in its coloration. Again it lit on the wire, where it remained for minutes and where I gave it a good going over with my glasses. It was slender, rather than heavy and blunt like other Grosbeaks; it had a small but distinct top-knot; the wings were heavily marked with dull brown and the bill was thick and heavy like that of a Cardinal. I knew I had a strange bird, but could not quite catalog it. Again it flew into the grass,

close by the road. I flushed it and then saw at close-hand the blue and other marks so distinctly I knew my find was a Blue Grosbeak. Across the road it went and lit atop a dead corn stalk, where I left it. The female flushed almost at my feet from the roadside. The very next afternoon, in Clear Creek bottom at a spot almost identical with the one above described, I found another male. It too was perched on a dead corn stalk, in low land.

Several times during May 1945, I again found male Blue Grosbeaks in the Cane Creek bottom, near their last year's location. This bottom is a half mile wide and consists of open cultivated land having fairly rich soil. Wires run alongside the road which is built upon an embankment about four feet above the surrounding fields. A rank growth of coarse grasses and weeds border the road. The Grosbeaks were found feeding most of the time in a field of oats and wheat, the grain being still in a green state. Their favorite



perching place was on the phone wires but on one occasion, May 27, one sang from a cottonwood tree near the road. I made repeated efforts to find nests but without success and only one female was seen during these visits.

On June 10, in McNairy County, Tennessee, seven miles north of Corinth and in the Muddy Creek bottom, several males were found perched on the wires alongside Highway No. 45. Conditions here were exactly as they were at Cane Creek, except that the valley of Muddy is laid out on a much larger scale, there being extensive fields of rich cultivated land on either side of the road. Alongside the highway, for a distance of a mile, a strip forty or fifty feet wide is grown up in coarse grasses and weeds, among which willow bushes grew plentifully and a few cottonwood are also scattered along. The road is built on an embankment about five feet high.

Here, on June 11, I found a female Blue Grosbeak building a nest in a shrubby willow, about forty feet away from the road and three feet above the ground. The site offered ample cover for a nest. The male remained perched on a wire nearby and did not appear to be helping at all with the nest. On my next visit, June 17, three pale blue eggs were found to have been laid.

On the 19th, there were four. On June 25, the female was found incubating on the nest and I figured the eggs should hatch about July 1. My visit of July 2, found the nest to contain four very small young. Both parent birds perched on the wire very near by and before I left the spot the mother bird returned to the nest. As well as I can estimate the time, twenty days elapsed from the day the nest was started until the eggs had hatched. Approximately eight days after hatching, the young left the nest but remained about for a few days longer. During my visits to this place, I saw some four or five males along the road; good evidence that there were as many other nests.

The nest was roughly built of small strips of bark fiber, torn (I saw the female tugging at it) from a dead tree limb that lay on the ground nearby, straw, and small bits of trash which included a strip of white paper an inch wide. The interior of the nest was quite cozy, smooth and deep. It was built in a crotch of the willow and well concealed. I understand that this is the first breeding record for Tennessee.

The female Blue Grosbeak is distinctly a sparrow-like bird but on close examination is found to have the grosbeak characteristics. I noticed a faint though positive blue marking on the wing (middle covert) and the tail is dusky blue. The male can always be positively identified by the distinct reddish-brown marks on the shoulders and middle wing coverts. Otherwise it is very similar to the Indigo Bunting but is considerably larger. The song is also somewhat similar to that of the Indigo but a little louder and might otherwise be described as a blend of the Tanager, Rose-breasted Grosbeak and Indigo Bunting.

I found a male this past June on a phone wire at Pickwick Dam, Tenn., in a big stretch of open level country. At another place, a mile toward Corinth from the nest described, still another male has been seen several times. At the point where I found the nest, at certain times the traffic is very heavy and there is considerable noise but the birds pay no attention to it. All along this area, Dickcissels are plentiful and were doubtless nesting there. My suggestion to those who would like to find the Blue Grosbeak in Southwest Tennessee and in Mississippi, would be to look in the cultivated bottomlands, open country, containing areas with heavy cover of coarse grass and weeds with bushes interspersed and where there are phone wires on which to perch.

CORINTH, MISSISSIPPI. June, 1945.



OBSERVATIONS ON THE BIRDS OF WAKE ISLAND

BY CHARLES VAUGHN

(FOREWORD.—Far out in the wide Pacific Ocean, 1000 miles west of Midway (westernmost of the Hawaiian Isles) and 1550 miles east of Guam, lies Wake, one of the most isolated islands on the globe. Relatively, it is but a mere speck on the greatest of oceans, a low flat reef of coral sand of only about one square mile in area. It has been described as "a spot teeming with birds, Polynesian rats and fiddler crabs", the land dwelling forms competing and fighting for the scant food to be had on its nearly barren surface. Unfit

for settlement, it had gone on almost unnoticed until the advent of trans-pacific air transport, when it immediately became of great importance as a much needed way-station and under United States ownership, improvements were installed here for that purpose. Charles Vaughn, son of Dr. H. S. Vaughn and who grew up with the Nashville 'bird group', penned the following notes after a short stay on Wake during the first week of April, 1938. For some years thereafter, Mr. Vaughn flew transport planes up the Yangtze River and up and down the China coast. During the current war, he is flying the trans-Atlantic plane route of the Pan-American Airways, carrying troops and supplies to the A.E.F.

During January 1942, Wake Island, stoutly defended by American Marines, succumbed to mass attack by the Japanese navy and has since been continuously occupied by them. During the elapsed three and a half years, the little island has been blanketed by bombs dropped from carrier planes on many occasions and this must have been greatly destructive to the birdlife. If, in addition, as is probable, the Japanese have followed their past iniquitous record as predators upon Pacific wildlife, Mr. Vaughn's observations may well become a first and final chronicle, for the interesting birdlife of Wake may have become completely extirpated as a result of the Japanese occupancy. His notes follow.—EDITOR)

Wake Island, April 7, 1938.—This remote bit of land offers a splendid opportunity for a detailed study of a limited number of seabirds, as well as a few land species, with regard to their habits of breeding, feeding, social characteristics, migration, manner of flight and other things that go to make up their life histories. Unfortunately for my own interest in them, my stay here was only for a few days and I was further handicapped by being a land-lubber and therefore not well acquainted with sea birds.

Of the species that I could positively identify, there were the Man-o'-war or Frigate Birds, Boobies ('Gannets'), Sooty Terns ('Wide-awakes'), Laysan Albatross ('Goonies'), Tropic Birds ('Bosunbirds'), the Wake Island Flightless Rail and what appeared to be Common and Least Terns. Others of which I was uncertain were two or three kinds of Terns, a 'Stormy' Petrel, a wader that resembled a Phalarope, a Plover that might be peculiar to this island and a blackish bird that at a distance looked like a crow but probably was not.*

Of all these, the Flightless Rail was to me the most interesting. They are similar in size and appearance to the Sora Rail of the United States but because they are nonmigratory—there being no convenient 'stepping stones' southward—they have lost the power of flight and their wings have evolved into stubby appendages quite useless for this purpose. They travel around with, and even eat from the same dish with, the small vegetation-eating rats that infest the island. Long unacquainted with human beings and therefore unafraid, they have become quite friendly with our men during the three years the Pacific Airways have occupied the island. They stand by dozens on the steps of the hotel kitchen door, peering thru the screen at the staff and going crazy with delight when one of the Chinamore kitchen-boys (natives of Guam) comes out with scraps for them. They walk over his shoes and jump high in the air, just like young chickens at feeding time. During the heat of the day, they get under the hotel or go down into the rat burrows to keep

cool; at night, they go foraging abroad with the rats. They do not like to be handled however and when the men chase them, they stretch their useless stubby wings to balance themselves and run with the speed of a Bob-white. They nest on bare sand at the base of the scrubby beech magnolias, laying a clutch of four or five eggs, judging by the number of young in the nest.

According to the best information obtainable from residents, there is a continuous breeding season on the island, some species or other nesting during each month of the year. My informants were also of the opinion that only the Albatross and perhaps some of the Terns were away for part of the year and that the other species were permanent residents. The 'Bosunbird' takes its name from the way it nonchalantly perches on the prow of a boat with the authoritative air of a boatswain. They were breeding in abundance at the time and deposited but one egg, it being pale blue marked with brown-mottled wash. Some of the little Terns were nesting and I came across a Booby's nest with young.

Socially, the various species seem to get along together very well, several different kinds nesting in the same colonies within a few feet of one another. The Man-o'-war Bird is the bully of the community, often robbing other birds of their catch and is always shunned by other species. It is obvious to even the casual observer that the birds have little or no knowledge of man. They will alight a few feet away from an observer and watch him interestedly, making no move to fly when he steps toward them, or, they will sit on the sides of a rowboat while you fish and fight together over a small fish that may be thrown to them, or, steal from the bait can while you are looking the other way. With so many birds about and so many that were new to me, the whole scene was confusing and I regretted that I had to move on before I could learn more of their habits.

*(NOTE.—Comparable to the birds of Wake Island, is a list from Laysan. No ornithologist of whom we have found record has visited Wake except Dr. Alexander Wetmore who did so a good many years ago but who has not published his observations. Laysan Island, near the west end of the Hawaiian group and 1400 miles east of Wake, is a protected bird reservation and its seabirds in most respects are similar. Its birdlife has been well studied and most prominent of the score or more there, are the Laysan and Black-footed Albatrosses, Sooty Tern, Gray-backed Tern, Noddy Tern, Hawaiian Tern, White Tern, Bonin Island Petrel, Wedge-tailed Shearwater, Red-tailed Tropic Bird, Blue-faced Booby, Red-footed Booby, Man-o'-war Bird and Bristle-thighed Curlew. There is also a species of the little Flightless Rail.

American ornithologists visited Laysan in 1902 and in 1903 and published accounts of the huge bird colonies. Japanese plume hunters learned of this, raided the islands and are estimated to have killed in the neighborhood of a million birds. Only the timely arrival of a United States revenue cutter prevented their complete extermination. This issue of THE MIGRANT will go to several of our members now in the armed services in the Orient and we hereby commission them to report further upon Wake if they should have the opportunity.—ED.)

THE ROUND TABLE

BICKNELL'S THRUSH ADDED TO TENNESSEE LIST: On the morning of May 5, 1945, while making the circuit of Bluebird nest boxes, I picked up a dead Thrush of the Gray-cheeked species on the roadside at the extreme east edge of Percy Warner Park, Nashville. The bird had apparently collided with a passing automobile but was in perfect condition. As Gray-cheeked Thrushes are migratory in Tennessee, are never common, are difficult to identify in the field, and sub-species are indistinguishable in the field, I presented the bird to A. F. Ganier to be made into a study skin. The wing measurement of 93.2 mm. (female) proved it to be a Bicknell's Thrush (*Hylocichla minima bicknelli* Ridgway), the smaller form of the Gray-cheeked. This identification is chiefly based on the statement of Alexander Wetmore in *Notes on the Birds of North Carolina* (1941, Proceedings of the U. S. Nat. Museum, 90:512), where, under the heading of Bicknell's Thrush, he states: "A male was collected near Southport [N. C.] May 12. In this specimen the wing measures 95.1 mm., so that it is clearly representative of the smaller form." In his *Notes on the Birds of Kentucky* (1940, Proc. U. S. Nat. Museum, 88:552), Wetmore gives four wing measurements for the larger form, *Hylocichla minima minima*, the Gray-cheeked Thrush, as 98.5, 99.8, 102.5, and 102.9 mm.

Among the Gray-cheeked Thrushes trapped at my home banding station, I have measured 12 since 1939. Of these, one banded in 1940 is referable to the Bicknell's Thrush on the basis of its small size, the wing having measured 91 mm.

The Warner Park specimen, when compared with skins of the Gray-cheeked in the collection of Mr. Ganier, showed a difference in size that is very apparent. Further, the Bicknell's specimen is more brownish above and more buffy below, thus conforming to the description given by Forbush in his "Birds of Massachusetts". My banded individual of Sept. 15, 1940, constitutes the first record of Bicknell's Thrush for Tennessee, now substantiated by the specimen of May 5, 1945.—AMELIA R. LASKEY, Nashville, Tenn.

ALDER FLYCATCHER AT MEMPHIS: On August 27, 1944, in company with Robert Tucker, the writer collected the first specimen of this flycatcher (*Empidonax trailli trailli*) that has been recorded in Tennessee and thus ended a search of many years. The bird was on the shore of Mud Lake, 14 miles southwest of Memphis, and was feeding along the margin of the woods which fringe it. It was an immature female in excellent plumage and the back bore the characteristic brownish shade. It was feeding by alighting on fallen tree branches and small sprouts, a foot or so above the ground and flying thence to the wet earth below, to pick up insects. The bird was quite nervous at all times and flew back into the underbrush on numerous occasions when approached to within 60-75 feet. Perhaps 8 or 10 small flycatchers in all were seen, several of which were feeding in this manner and there may have been others of this species. They were all quite elusive but we secured two others and these proved to be the Least and the Yellow-bellied Flycatchers. Dr. Alex Wetmore has kindly examined the specimen first mentioned above and verified its identity.—ALBERT F. GANIER, Nashville.

BLUE GROSBEAK SEEN AT NASHVILLE: Although not abundant in any part of its summer range (Louisiana to Southern Illinois), nest records for the Blue Grosbeak (*Guiraca caerulea*) have been published for the states surrounding Tennessee. Yet, curiously, this species has been recorded for our state only once. Franklin McCamey and George Foster saw a female in the Memphis area on August 5, 1935 (MIGRANT, 1935, 6:53).^{*} My observation of one just west of Nashville, on May 19, 1945, is worthy of record. About 9 A. M., driving slowly along Highway 100, on the west boundary of Percy Warner Park, accompanied by Warren Bosman, a high school senior making his initial trip with me to the park, my ear caught a charming but unfamiliar song. It came from a bird perching on a wire some 60 feet away, above a weedy railroad embankment beside a drainage gully. Stopping by the roadside, we had the pleasure of listening and observing as long as we desired, checking with 8x binoculars to compare point by point with plate and description in Peterson's Bird Guide. The singer was a beautiful adult male Blue Grosbeak, whose plumage, in the sunlight, appeared richly blue except for the conspicuous reddish-brown wing bars. He sang at length from the wire, then flew down into tall weeds, hopping to the tops of stalks where he remained in full view as we reluctantly drove on. Except for his larger size and wing bars, he resembled an Indigo Bunting, but his song was distinctly different. The song is aptly described by Peterson as "rising and falling" and by Baerg in *Birds of Arkansas*. He says: "As a singer, the Blue Grosbeak rates high. Its song has been likened to that of the Purple Finch. It resembles somewhat that of the Indigo Bunting but is less shrill, and of better quality. The voice is soft and rich in overtones."—AMELIA R. LASKEY, Nashville, Tenn.

^{*}(NOTE:—There is an earlier unpublished record of one observed four miles southwest of Memphis. This is contained in a letter of Ben B. Coffey of that city, who wrote me on May 28, 1929, that he had observed one on May 11 of that year. Elsewhere in this issue, Benj. R. Warriner records them in McNairy County, southwest Tennessee.—ED.)

COMPETITION FOR TERRITORY: During last spring two pairs of Kestrels^{*} (*Falco sparverius*) nested within 100 yards of each other, in front of and behind my home in the suburbs. One raised four young, but the other, contesting occupancy with a Fox Squirrel, lost their first set of eggs, and although seen sitting on a second set, apparently this also was unsuccessful. Territory disputes were conspicuous, once the two males tangling high in the air and falling almost to the ground before separating. Flickers, they themselves entangled in an ever recurrent triangle, were continuously beset upon by one of the Kestrels whenever the woodpecker alighted near the Kestrel's nest. A "shrug" of the Flickers' shoulders was usually enough to shake off the diminutive falcon, and the Flickers paid no other attention to them. However, once a Kestrel got a better hold and started to ride the Flicker down, and the latter's distressed yelp brought instant vocal help and protest from all nearby nesting birds.—WALTER R. SPOFFORD, Nashville, Tenn.

^{*}NOTE: Dr. Spofford uses the name Kestrel for what our bird books designate as the Sparrow Hawk, his reason being that the latter name was first applied and rightly belongs to the European form of our Sharp-shinned Hawk.—EDITOR.

SWIFTS TAKE REFUGE FROM RAIN: Spring flocks of Chimney Swifts are always of interest in this area and the behavior of a flock on May 11, 1945, was particularly so. My sister, Mrs. A. F. Yancey, who has observed these birds many times with me, reported the following:—"About 7:45 A. M. a flock of approximately 1,000 Swifts were circling the chimney at Idlewild Presbyterian Church. Earlier in the morning the weather had been clear, but suddenly a cloud which darkened the skies came on and it looked as if a torrential rain were imminent. The Swifts thereupon began pouring down the chimney and by 8:10 A. M., all the birds had gone within. There was no opportunity to observe what followed later on."—MRS. BEN B. COFFEY, 672 N. Belvedere, Memphis, Tenn.

SPRING ROOSTING OF SWIFTS: The roosting of Chimney Swifts (*Chaetura pelagica*) in large numbers in chimneys is a regular occurrence thruout the State in autumn but the birds are much less in evidence on their return in Spring. Since neither Dr. Henry Meyer nor the writer have observed such large flocks at Knoxville before at that season, the following notes may be of interest.

Returning transients were first reported on April 1 and continued to be seen in normal numbers until on April 26, on which date a large flock was reported to me as having gone to roost in the 40 foot chimney at the Court House. The report having been received on Friday, the 27th, we arranged to personally observe the flock that evening. We arrived at 7:10 p. m. and estimated a thousand or more birds circling about the general area. Gradually they began to form a more compact flock, circling over the chimney, then drifting off as tho to seek a better roost elsewhere. Shortly, they would begin to move back into view and there would be another concentration over the area centering about the chimney. This performance was repeated several times within ten minutes and since it was then sufficiently dark for the birds to begin entering the chimney, the writer made a hasty visit to two other nearby chimneys that had been used the past October. The time was 7:25 and the number of birds were increasing rapidly. From high in the sky they began to swoop down and with binoculars, it was readily ascertained that there was a definite movement toward the chimney used the night before. We rushed back and arrived in time to see the first diving passes at the chimney. The lower part of the mass would go into a tight clockwise movement, hesitate, scatter and regroup; this time circling perhaps in the opposite direction. Finally one bird entered and the rush was on. The first lull in the surge came in a few minutes and our estimate was that 2000 birds had entered and that quite a number were still high in the air. The light was fading rapidly now and the funnelling began again with more intensity than before. The last of the main flock was in by 7:41 and the few stragglers still outside could be seen with difficulty. Forty or fifty of these entered singly or in groups of four to six. We estimated the entire flock at approximately 3400 birds. Our past estimates of fall flocks, checked later by trapping, have not been greatly in error.

The chimney was not under observation on the 28th but Swifts were seen emerging the following morning. There was a precipitation over Knoxville the night of the 28th and on the 29th and the birds did not come to the

chimney the evening of the 29th with the exception of about 60 individuals. None were to be found in the area the evenings of May 1 and 2. Two showery days followed and on the evening of May 5, a small flock of 35 to 50 were in the area of Henley and West Hill, three blocks from the Court House. This small flock remained to date (June 10), varying from 15 to 75. The large flock apparently moved northward on or about April 29.—WM. M. WALKER, Knoxville, Tenn.

SPRING MIGRATION OF THE RED-HEADED WOODPECKER: In most, if not all, species the number of individuals does not remain the same for a very long period of time. One of the contributions of field study is that it aids in determining the relative abundance of a species from year to year. At times the Red-headed Woodpecker, (*Melanerpes erythrocephalus*) has been found to be present in considerable numbers in East-Tennessee. In "A distributional list of the birds of Tennessee", Ganier ('33) lists this form as a fairly common summer resident, a rare winter resident, and a common transient.

During the past two years (1943-44) the Red-Headed Woodpeckers have been missed (by this observer) or were absent from many areas in and near Knoxville where they had previously been observed regularly. Because others, including Mr. William Walker, one of our most reliable observers, have voiced a similar opinion, the following notes concerning observations of this species during the spring of 1945 may be of interest.

Although this Woodpecker occasionally winters in this area, I do not have a record of its occurrence here in the 1943-44 or the 1944-45 winter. On April 29, 1945 it was recorded at the Island Home Sanctuary. Since that date it has been recorded in most of the areas we regularly found it prior to 1943. On June 1, I observed one less than two blocks from "downtown" Knoxville. On May 12, fifteen were observed at the University of Tennessee Farm. On May 14, six were noticed in a small area on the University Campus. On May 19, nine were again recorded at the University Farm. Mrs. Meyer's diary records the Red-head in our yard on May 19, 23, and 29. The fact that on May 12, six of the birds were in one tree while three others were on a telephone pole close by may be considered as evidence that this was a migrating group. Further, the fact that several students who were enrolled in my Ornithology class, reported seeing Red-heads on the campus frequently between May 12 and 19 may be considered as supporting evidence of a migration wave of these Woodpeckers between these dates.—HENRY MEYER, Department of Zoology and Entomology, University of Tennessee, Knoxville, Tenn.

RED-HEADED WOODPECKERS INCREASING: Without being able to suggest a reason for their scarcity, it is a fact that over a period of several years, here in this section of the country, Red-headed Woodpeckers were decidedly conspicuous for their absence. Beginning around the year 1930 and continuing for a decade, these birds were rarely seen. Then, some four or five years ago, they began to increase in numbers. Today they would not be counted as plentiful, yet there are enough of them here to rate them as 'fairly common'. The Red-head is a very jaunty, noisy and beautiful bird and its return after having dwindled in numbers adds a bit of interest to our local bird life.—BENJ. R. WARRINER, Corinth, Miss.

THRASHER SINGS WITH HIS BEAK FULL: Watching a Brown Thrasher moving about in a brush pile, I noticed that he had a piece of bread about as big as the end of my thumb, held in his beak. But it seemed that song was coming from the same brush pile. By carefully focussing eight-power glasses it was easy to see the Thrasher's throat moving as well as to perceive that he was singing with his "mouth" full of bread. The song was quite soft and low. This caused me to wonder if other birds sing while holding food in their beaks. Only a day later, I was watching a Red-eyed Vireo and I saw quite clearly that he would seize a leaf worm and would warble with it in his beak before he ate it.

A Brown Thrasher furnished us another observation of interest, as follows. We had purchased a live chicken and it was lying out in the yard with its feet tied together. I noticed that its presence seemed to disturb the birds. A Thrasher especially, was hopping about in a nearby tree and fussing although I could not be sure it was the chicken that was disturbing him. But when I wrung the chicken's neck and let the body drop on the grass, the Thrasher circled immediately and dived for it. When the chicken was temporarily still, he would perch upon a nearby log, with his wings partly raised, vehemently fussing, and when the fowl again began to thrash around, he was immediately upon it. This kept up until the chicken was quite dead and the bird did not leave, or abandon his belligerent attitude, until I had carried the fowl into the house.—ROBERT M. HAWKINS, Nashville, Tenn.

FURTHER NOTES ON MEMPHIS NESTING CENSUS: Since the nesting census of the Memphis chapter had been made at Forest Hill Cemetery in June 1943 and 1944 (THE MIGRANT, 1944, p.56 and 1943, p.53), Dr. C. L. Moore, Mary Mason, Lawrence Kent, Alice Smith and the writer, visited this place on June 24, 1945, to again list the birds and their nests. Practically the same species were observed with but small variation in numbers. The only new species added were Cooper's Hawk, one pair with a nest containing three young; Red-shouldered Hawk, one pair and Hairy Woodpecker, four pair. Two pairs of Catbirds and a pair of Tufted Titmice were listed in 1943 but none of either in 1944 or 1945. The Parula Warbler, listed on both previous counts, was not found this year. Bewick's Wrens (three) were noted in 1944 only.—MRS. BEN B. COFFEY, JR., 672 No. Belvedere, Memphis, Tenn.

WHITE PELICANS AND CLIFF SWALLOWS ON TENN. RIVER: During the course of a boat trip down the Tennessee river, from Chattanooga to Paducah, Ky., I made the following notes.

Four White Pelicans (*Pelecanus erythrorhynchos*) were observed on June 7, on the Pickwick pool, a few miles upstream from Pickwick dam. Their identity was made certain by their large size, white plumage and black wing-tips. Their occurrence this far east is unusual.

Since Swallow Bluff, 37 miles downstream from Pickwick, has been submerged by waters of the Kentucky dam pool, the large colony of Cliff Swallows which nested there formerly (see MIGRANT, 1941, p.21) have had to move elsewhere. On this trip, I found them nesting 25 miles further downstream on the face of Marvin's Bluff which lies on the east bank of the river in Perry County. This location is about 4 miles below Double Island and 2 miles below White Oak Creek. Another colony was found to be nesting at

the newly finished Kentucky dam near Paducah. They were building under one of the overhanging concrete walkways at the upstream entrance to the lock, as they do at Dover, Tenn.

Herring Gulls I usually find by hundreds along the river, especially at Pickwick and at Wilson dam locks, where they perch on the handrails in great numbers. On the June trip above mentioned, I saw practically none at all, they having departed for their northerly breeding grounds.—S. A. WEAKLEY, U. S. Engr's Office, Nashville, Tenn.

ELIZABETHTON SPRING FIELD DAY: The Elizabethton Chapter of the T. O. S. held its second annual spring field day on May 6, 1945. The temperature ranged from 50 to 65 degrees F. and we were favored with fair weather. The territory covered was in the vicinity of Elizabethton and nearby Johnson City. The last mentioned area was covered by Messrs B. P. Tyler and R. B. Lyle. The remaining group consisted of Mr. and Mrs. Finucane, Mr. W. F. Pearson and Miss Gillespie from Kingsport, and Mr. and Mrs. Fred W. Behrend, Mr. and Mrs. J. C. and Sylvia Browning, Dr. and Mrs. Hugo Doob, Jr., Mrs. Hugh Taylor, and Dr. and Mrs. Lee R. Herndon, of Elizabethton. After spending the day in the field, the group assembled for a buffet supper at the Herndon home at 7:00 P. M. and compiled the day's list. On completion, this was found to comprise 109 species. Fourteen of these were observed only by the Johnson City representatives and these are designated below by an asterisk. The list follows:

Great Blue Heron, Green Heron, Black-crowned Night Heron, Mallard Duck*, Blue-winged Teal, Lesser Scaup, Red-breasted Merganser, Turkey Vulture, Black Vulture*, Cooper's Hawk, Osprey, Sparrow Hawk, Bob-white, Sora Rail, Wilson's Snipe*, Spotted Sandpiper, Solitary Sandpiper, Greater Yellowlegs*, Lesser Yellowlegs*, Ring-billed Gull, Mourning Dove, Yellow-billed Cuckoo, Black-billed Cuckoo*, Whip-poor-will, Chimney Swift, Ruby-throated Hummingbird, Belted Kingfisher, Flicker, Red-bellied Woodpecker*, Downy Woodpecker, Kingbird, Crested Flycatcher*, Phoebe, Acadian Flycatcher, Least Flycatcher, Wood Pewee, Prairie Horned Lark, Tree Swallow, Bank Swallow, Rough-winged Swallow, Barn Swallow, Cliff Swallow, Purple Martin, Blue Jay, Crow, Carolina Chickadee, Tufted Titmouse, White-breasted Nuthatch*, House Wren, Winter Wren, Carolina Wren, Mockingbird, Catbird, Brown Thrasher, Robin, Wood Thrush, Veery*, Bluebird, Blue-gray Gnatcatcher, Cedar Waxwing, Migrant Shrike, Starling, White-eyed Vireo, Yellow-throated Vireo, Red-eyed Vireo, Warbling Vireo, warblers as follows: Black-and-white, Worm-eating, Parula, Yellow, Magnolia, Myrtle, Cerulean, Chestnut-sided, Palm, Kentucky, Hooded and Canada, Ovenbird, Northern Waterthrush, Louisiana Waterthrush, Maryland Yellowthroat, Yellow-breasted Chat, Redstart, English Sparrow, Bob-o-link*, Meadowlark, Redwing Blackbird, Orchard Oriole, Baltimore Oriole, Purple Grackle, Cowbird, Scarlet Tanager*, Summer Tanager, Cardinal, Rose-breasted Grosbeak, Indigo Bunting, Goldfinch, Towhee, Savannah Sparrow, Grasshopper Sparrow, Vesper Sparrow*, Slate-colored Junco, Chipping Sparrow, Field Sparrow, White-crowned Sparrow, White-throated Sparrow, Swamp Sparrow*, and Song Sparrow.—LEE R. HERNDON, 1533 Burgie St., Elizabethton, Tenn.

NOTES, HERE AND THERE

A communication came to the Editor recently from Peru, enclosing a band believed by the sender to have been taken from a Chimney Swift there. The circumstances related regarding its taking did not fit in with the habits of Swifts so we refrained from using it in our last issue until the history of the band could be checked. The bird turned out to be a Bank Swallow. We will work up the little story for our next issue.

A Children's Museum has been launched at Nashville and upon the recent successful completion of a financial campaign for its support, its future has become assured. Messrs Vernon Sharp and H. S. Vaughn, two active T.O.S. members, are President and Director respectively. Mrs. Winston Brockner has been engaged as Educational Director. In a future issue, we hope to describe the project in greater detail.

Capt. Ben B. Coffey is at present in India, being in the Air Service and directly connected with the work of maintaining our air bases in that region. He reports that he is getting acquainted with many new oriental birds and we hope to present a communication from him in a future issue.

W. M. Walker, for some years an active observer at Knoxville, has removed to Nashville where he is again connected with the State Highway Department.

From our new and active Elizabethton chapter, we have received an attractive program of walks and talks, scheduled for the entire year.

We are fortunate in this issue in being able to record two new birds for the Tennessee list and the first State nesting record for a third.

In October of this year, the T.O.S. will celebrate its thirtieth anniversary. Three of the original founders are still living.

We regret having to reduce the weight of paper on which THE MIGRANT is printed. Due to war restrictions, we are using 45 instead of 60 pound stock. In further compliance, we have reduced the number of our pages.

The cost of the illustrations in this issue was donated by members. That of the Blue Grosbeak by Mr. Warriner; the frontispiece by the Editor.

T. O. S. OFFICERS FOR 1945.—At the annual meeting of the Tennessee Ornithological Society, held at Nashville on May 6, 1945, the following officers were elected to serve for the year beginning July 1, 1945:

President, Dr. Walter R. Spofford, Vanderbilt Medical School, Nashville.

Vice-pres., West Tenn., Mrs. Ben B. Coffey, 672 N. Belvedere, Memphis 7.

Vice-pres., East Tenn., Mr. W. F. Pearson, Homestead Hotel, Kingsport.

Vice-pres., Middle Tenn., Prof. Robert M. Hawkins, S. Bellevue Dr., Nashville 5.

Editor-Curator, Mr. Albert F. Ganier, 2112 Woodlawn Drive, Nashville 5.

Treasurer, Mr. Alfred Clebsch, 838 Gracey Avenue, Clarksville.

Secretary, Mr. Luther F. Keeton, 75 North Cleveland St., Memphis 4.

The officers were elected at the conclusion of an all day field trip to Craggie Hope on the Turnbull River, 25 miles west of Nashville.

THE MIGRANT

A QUARTERLY JOURNAL DEVOTED TO THE STUDY OF TENNESSEE BIRDS

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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

THE DUAL USE OF ENGLISH AND SCIENTIFIC NAMES

The frequent insertion of scientific names, following the vernacular or English names, of birds referred to in this journal may be puzzling to some of our readers. Admittedly, we are inconsistent in not either omitting the former entirely or using both in each case. It would perhaps be proper to omit the scientific names entirely and cover this policy by a blanket statement to the effect that all English names used were those adopted by the current standard Checklist of the American Ornithologist's Union and further stating that therein could be found the corresponding scientific name. As a matter of fact, this statement *does* cover our present policy where scientific names are not given. There are some ornithologists however, particularly those of the 'old school', who will not accept or refer to published information about birds unless the author has emphasized his care in identification by repeating the English name in its scientific equivalent. The leading ornithological journals have therefore followed the practice of giving both names in general articles, special short articles and elsewhere where the inclusion would not be burdensome or wasteful of space. THE MIGRANT has followed this custom and will continue it. We will do so particularly in such articles and notes as future research workers may wish to quote as source information. Other notes, particularly those that mention our common birds in a casual way such as field day or census lists, will not be burdened with the scientific synonym. There is no hard and fast rule and we will not carry consistency to the point of being boresome. Furthermore, in using scientific names of birds represented in the State by two or more subspecies, we will usually use the binomial unless the specimen has been collected and properly identified, thereby properly establishing the correct trinomial designation. The vernacular or English names have suffered but few changes during the past fifty years and have therefore proved far more stable than the scientific names. Under the rules by which scientific names are applied and revised, there is no hope for stability in future. For these and other good reasons, it is our feeling that future editions of the A. O. U. Checklist should change the English names only when there is a very good reason for doing so.—ALBERT F. GANIER.

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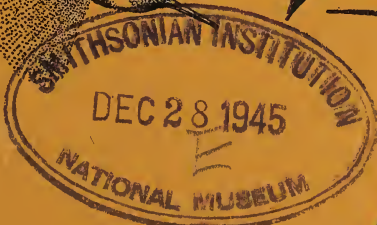
Birds
THE MIGRANT

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Published by
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THE GREAT SMOKIES AND THE WEST VIRGINIA MOUNTAINS: A CONTRAST

BY MAURICE BROOKS.

The ancient mountain system of eastern North America rises to three climactic regions. To the north the mountains of New England and New York have arctic-alpine peaks above tree-line, with extensive spruce and fir forests coming in just below the critical point where trees cease to grow.

Not too far from the center of the Appalachian system the Alleghenies of West Virginia and northwestern Virginia have extensive areas above 4000 feet elevation, the higher points clothed (originally at least) with a wonderful forest of red spruce and occasional stands of balsam fir.

The third of these climaxes is to the south, beginning with Whitetop and Mt. Rodgers in southwestern Virginia, and rising to greatest heights in the Great Smokies and the North Carolina Blue Ridge. Here is the southeastern extremity of the Canadian spruce-fir forest, modified it is true, but more nearly resembling the northern coniferous forest than any other woodland type in North America.

In the New England-New York highlands I have climbed most of the higher peaks, in the West Virginia-Virginia mountains I have spent my life, but in the southern reaches of the Appalachian system I have enjoyed only occasional short visits. It was, therefore, a peculiar pleasure to be able to spend a week in the Great Smokies during the latter part of May, 1945.

On a trip of such short duration the visitor gets impressions, sharpened if he has had experience in similar regions, and especially if he has expert guidance as I did in Art Stupka, the Park Naturalist. Knowledge of even a single mountain, let alone a vast wilderness, is not gained in a week or a year, so my notes must be, at best, superficial. Nevertheless, there are many striking similarities, and some sharp contrasts, between the Great Smokies and the West Virginia spruce-clad peaks which I know best.

The Great Smokies are both higher and much more spectacular than are the West Virginia mountains. The effect of greater elevation is heightened by the abrupt rise of the Tennessee-North Carolina massif from a comparatively low base; in West Virginia our highest peaks often rise from a plateau which is itself 2000 feet or more in elevation. The central axis of the Great Smokies therefore looks much bigger and is much bigger than anything in the mountain line which my own state can offer.

Due to the beneficent regulations of the National Park Service, the Great Smokies still are clothed in a vast forest which is, for a considerable part, virgin. West Virginia has only remnants of its original woodland, and only tiny fragments of the great red spruce forest which once glorified 700,000 of our mountain acres. True enough, under favorable conditions,

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the spruce forest is regenerating, but of course it cannot again be pristine.

There is nothing in the West Virginia mountains to correspond to the grass balds of southern peaks—those peculiar elevated openings which serve the dual purpose of creating an illusion of tree-line, and of confounding the ecologists. Neither does my own state have such extensive rhododendron “slicks” and azalea and kalmia “pink beds” as are to be found southward.

It is always inspiring to trace out a species to its ultimate limits, north or south. Such delimiting points are, of course, frequent in the Great Smokies, as they are in my own mountains. The last great stand of the spruce-fir forest on Clingman’s Dome, the clear, ringing notes of the Olive-sided Flycatchers at the southern extremity of their breeding range, these and many more add zest to the mountain scene.

For those of us who have an interest in the cold-blooded vertebrates, no other region in the world, perhaps, can offer so many species of salamanders as does the Great Smoky Mountains National Park. One must travel there to see the striking red-cheeked Jordan’s salamander, so common in every situation above the 4000 foot contour. The tiniest of all our species, Wright’s salamander, is perhaps as common in its type locality at Mt. Leconte as at any other place on the earth’s surface. I have never, outside the Park, seen so many salamanders of so many species in any one locality.

A region which has elevation differences of 5000 feet or more on a single unbroken mountain slope is certain to offer sharp contrasts in its bird populations. At my home we do not find Chuck-will’s-widows and Sycamore Warblers at the foot of a high mountain, but both these species seem common around Sevierville, just where one begins to climb toward New-found Gap. Thus in effect one journeys in a few miles from the Carolina lowlands to the Canadian woods with its Kinglets, Creepers, Winter Wrens, and northern warblers.

Both the Great Smokies and the West Virginia mountains are well-watered, a multitude of swift mountain streams, fed by high rainfall, enriching the scene. As a result of this heavy precipitation, well distributed throughout the year, there is a wonderful wealth of woody and herbaceous vegetation. We have here a genuine mid-latitude rain forest, without the climbers and aerial plants for the most part it is true, but with a wonderful understory of broad-leaved evergreens; rhododendrons, kalmia, leucothoe, andromeda, and others. Trees grow very rapidly, and in almost tropical profusion of species.

I was amazed to see buckeye trees growing near the 6000 foot level on Mt. Kephart. Yellow-wood (*Cladrastis lutea*), a species which I associate with the lowlands of south-central United States, was opening its fragrant white blossoms at 3000 foot elevations. It is the tree species, I believe, which serve most effectively to dilute the true Canadian character of these high peaks; most of the birds and mammals, and many of the herbaceous plants are of northern affiliation, but the trees of the central hardwoods region do creep in to give the heights a mixed-forest aspect. Thus the region is only quasi-Canadian, and all the more interesting to the biologist because of that fact.

Both of our regions have a share in the birds of the highlands. Ravens soar about all the high peaks or over the mountain valleys, calling hoarsely

at infrequent intervals; this bird is the very spirit of the mountain wilderness. Golden-crowned Kinglets and Brown Creepers whisper through the spruces. The latter species sings frequently, its notes sounding to me like a softer and somewhat abbreviated version of a Winter Wren's outpouring. In the Smokies, as in West Virginia, I have never heard the Kinglets, no matter how abundant they may be, give the full song which is so often heard in the higher Adirondacks.

At mountain heights in both regions one looks and listens for those erratic northern finches, the Red Crossbills and the Pine Siskins. The more extensive spruce and fir forests of the Smokies make for more permanent populations of these two wanderers than in West Virginia, or so it seems at least. Perhaps this is more apparent than real, since the best of the spruce forests in my own state are not reached by a single road or trail, and are therefore very infrequently visited by any ornithologist.

In the Smokies I miss the soft warble of the Purple Finches and the vibrant notes of the Mourning Warblers and Northern Water-thrushes, all characteristic of the high West Virginia mountains. Most of all, I miss the choruses of Hermit and Olive-backed Thrushes which seem to tie my own mountains so definitely and irrevocably to the North Country.

Missing too from the Smokies are the extensive cranberry bogs which in West Virginia are reservoirs of boreal plant and animal life. Art Stupka led me to a rich little hanging bog at the foot of Andrews Bald, but such areas are measured in hundreds or thousands of acres in Cranberry Glades, Canaan Valley, or Cranesville Swamp, all near my home.

Carefully assessed however, the similarities between the two areas are much greater than the sum of their differences. Each excels at some points. In scenery, in forests, in plant species, and in large animal life the advantage is definitely with the Smokies. For a wealth of bird life, both as to species and as to individuals, the balance, I think, swings somewhat toward the West Virginia mountains. Certainly this will be true if our best mountain area, The Cheat range, be compared with the Smokies.

Both areas are peopled by fine human stocks, Scotch-Irish, English, and Pennsylvania "Dutch." If their opportunities have not always matched those of their lowland brothers, the highlanders have done much to keep alive and develop those native crafts and customs which the world at large is finding so attractive in recent times.

One feels in both areas that the surface, biologically speaking, has just been scratched, that there remains a tremendous untapped resource for oncoming generations of students and investigators. This is as it should be; we must have behind us such resources. Our eastern country is but a few generations away from the wilderness, yet we have little wilderness left with us. I am happy that these great mountain areas which we share are doing much to conserve so vital a portion of our heritage.

WEST VIRGINIA UNIVERSITY, MORGANTOWN, WEST VIRGINIA.

NOTE: In connection with Professor Brook's description of The Smokies and its birdlife, the reader may find additional information in an illustrated article on the summer birds of that area, published in THE MIGRANT for September 1938, V. 9, pp. 41-45 and 55-58.—ED.

NESTING RECORDS OF THE TOWHEE AT MEMPHIS

J. SOUTHGATE Y. HOYT

When one comes to a new area of the country it is always with considerable excitement and pleasure that he goes afield to see and learn the ways of the new birds common to this area but strangers heretofore. It is with equally great pleasure that one sees old friends as well and renews acquaintances with birds which he is already accustomed to seeing in the field. Often it is a shock to observe that some of these old friends are not acting as we knew them at home and not infrequently they seem almost as strangers to us.

It is a situation such as this that brings me to record the first nesting record of the Red-eyed Towhee (*Pipilo erythrophthalmus*) in the Memphis, Tennessee, area. I have been with this species in many areas and have spent considerable time watching them in all stages of their life, from nestlings to birds of considerable age as repeats in a banding trap. When I first went afield here I was not in the least surprised to meet the Towhee in the same habitats as I had seen them in other parts of the country. In May, 1944, I was greatly surprised to learn that the Towhee had not been recorded as a nesting species in this area.* Furthermore I was told that the ornithologists of this area had made a diligent search for the nest of this species without success; they believing as I that it must nest here. By June Miss Pauline James had introduced me to the woodlot known as King's Woods and previously described in THE MIGRANT. At this time there were several Towhees in this wood lot. Later, on June 18, Miss James and I searched these woods from one end to the other without finding any Towhees. From this date to September 6, 1944, no Towhees were reported from any area around here and King's Woods could not produce any. Where had they gone? Surely they had not gone farther north to nest at this late date, for they are generally early nesters in the areas where I have found them breeding. I do not know the answer to this question but undoubtedly further study in this area will produce the answer. I do know that on September 6 there were two adult birds in King's Woods and from this date throughout the winter they were recorded regularly and in considerable numbers.

As spring, 1945, came on, I kept very close watch on the Towhees that had wintered in this woodlot. On April 3 I flushed a female from under some smilax and lonicera. I hastily looked for a nest but could not find one, however I made a mental note of the exact spot from which the bird had flushed. I was unable to return to the woods before April 6 at which time Miss James and I again flushed the female from the exact same spot. Being on the alert for the least movement before I reached the spot I saw just where the bird came from. Looking carefully under the vines we found the first nest to be found in this area. The nest was placed on the ground on the side of a slight slope inclined to the east. A depression was scooped out of the ground by the bird; into this the nest was carefully built. The exterior was of small twigs and the inside was lined with grass. The nest was so placed that one could step on the ground around the nest and not mash it for it was sunken into the ground. Four eggs were in

the nest and I believe incubation had started when I first flushed the bird from this place April 3. Photographs were taken that came out well and the nest was guarded with every possible precaution. The next time I returned to the site was April 11 at which time the eggs had hatched. On April 14 I tried to photograph the parent feeding the young but did not have time for the work so I had to content myself with photographs of the four young. By April 19 the young were out of the nest and being well cared for by the parents who kept the family in this small, isolated patch of woods where they had hatched.

In another area of King's Woods, we came across another family of young Towhees being fed by their parents. To make sure this was not the same family moved across the fields, one of us stood with each family and called to each other from across the fields, each watching a pair of parents with young.

This makes two nests in this area for this year but only one actually located. The young soon were flying and leaving their nesting area behind. As in the past we recorded Towhees in this area up to the latter part of June then lost all trace of them. At the time of this writing, August 16, 1945, there are no Towhees to be found in this area. I earnestly wish that I had the time to put into this mystery for I should like very much to learn the whereabouts of these birds during their summertime absence from the Memphis area.

KENNEDY GENERAL HOSPITAL, MEMPHIS 15, TENN.

*NOTE: In an earlier issue, Ben B. Coffey has cited the rarity or apparent absence of Towhees from the Memphis area during the summer. (MIGRANT, 1941, 12:51-57.) It is quite likely that the form of Towhee nesting at Memphis is the southerly race, Alabama Towhee (*P. e. canaster*).—ED.

NOTES ON THE BIRDS OF NORTH MISSISSIPPI

HENRY M. STEVENSON, JR.

It was the author's privilege to live in Oxford, Mississippi, from September, 1943, to June, 1944. This town is located in the north-central part of the state, 40 miles south of the Tennessee line. Altitudes within 10 miles of the town vary from 200 to 600 feet above sea level. The forests are predominantly hardwood, oaks being especially numerous. Pine woods are few, and no tracts of these trees cover an area of more than a few acres.

During the latter part of the writer's stay in Oxford occasional opportunities were found for a study of the breeding birds of the region. Furthermore, even after I had moved to Memphis in early June, return trips were made to Oxford on two week-ends, and some time was spent in the field. This field work during May and June, 1944, established fairly well the relative abundance of most species of breeding birds in a region where little summer work had been undertaken previously.

The probable status and range of the birds of Mississippi were described by Ben B. Coffey, Jr., in May, 1936 (*A Preliminary List of the Birds of Mississippi*, mimeographed). In a later paper (THE MIGRANT, Sept., 1939, pp. 50-56) he supplemented the information contained in the first paper with

data from Tishomingo State Park, in the northeastern corner of the state.

The present paper by no means contains a complete list of the breeding birds at Oxford. It purports only to add to the known distribution of certain species and to modify previous statements regarding the relative abundance of other species in northern Mississippi. The terms used here to describe relative abundance, however, are based on the average number of individuals (exclusive of nestlings) counted per hour of field work. These terms and the corresponding frequencies (numbers of individuals per hour) are as follows:

Abundant -----	more than 3.00	individuals per hour.
Common -----	1.00-3.00	individuals per hour.
Fairly common -----	.30-1.00	individuals per hour.
Uncommon -----	.05-.30	individuals per hour.
Rare -----	less than .05	individuals per hour.

The period covered by such data varies with the period of migration of each species. The shortest period used for any species (May 24-June 18) is for the latest spring migrants and embraces 17½ hours of field work. Other periods and the number of hours represented are: May 10-June 18, 22½ hours; May 1-June 18, 36 hours; April 1-June 18, 51 hours. (The last of these periods was used only for certain rare and relatively sedentary species.) An effort was made to spend equal amounts of time in the various habitats, but high waters made some habitats almost inaccessible.

YELLOW-CROWNED NIGHT HERON (*Nyctanassa violacea*). Coffey (1936) gives its breeding range as "Delta Swamps and Coast." Oxford could hardly be classed with the Delta region, but this species occurs uncommonly during March, April, and May and probably breeds in the region.

RED-TAILED HAWK (*Buteo jamaicensis*). In 1936 this species was considered a questionable breeder in northeastern Mississippi, but a pair was later found in Tishomingo State Park in June, 1939. It may also be considered a rare summer resident at Oxford, having been recorded on June 10 and 18. (According to the statistical methods described above, most species of hawks are less common at Oxford than Coffey has described them.)

RUBY-THROATED HUMMINGBIRD (*Archilochus colubris*). Only uncommon or fairly common at Oxford in summer.

FLICKER (*Colaptes auratus*). Rather uncommon at Oxford in summer.

CRESTED FLYCATCHER (*Myiarchus crinitus*). Very common; during 22½ hours, 44 individuals were counted.

WHITE-BREASTED NUTHATCH (*Sitta carolinensis*). Averages uncommon in the Oxford region.

BROWN-HEADED NUTHATCH (*Sitta pusilla*). Very rare, due to lack of extensive tracts of pines. Two individuals found at County Lake (Lake Lafayette) on June 18 were the only ones recorded during my entire stay at Oxford.

CAROLINA WREN (*Thryothorus ludovicianus*). Averages fairly common at Oxford. The frequencies for the winter months were somewhat higher, usually about 1.00 per hour.

SHRIKE (*Lanius ludovicianus*). Uncommon summer residents at Oxford.

STARLING (*Sturnus vulgaris*). Fairly common summer resident, doubtless having increased since 1936.

WARBLING VIREO (*Vireo gilvus*). Although considered by Coffey (1936) to be uncommon or fairly common throughout Mississippi, this species appeared to be entirely absent at Oxford in the breeding season.

BLACK-AND-WHITE WARBLER (*Mniotilta varia*). Breeding range previously described as the northeastern corner of Mississippi, but it breeds uncommonly at Oxford.

SWAINSON'S WARBLER (*Limnothlypis swainsonii*). It is uncertain whether Oxford belongs to the "alluvial region" where Coffey calls this species an uncommon summer resident, but it did prove uncommon there.

PARULA WARBLER (*Compsothlypis americana*). Uncommon or rare at Oxford in summer.

SYCAMORE WARBLER (*Dendroica dominica*). Very uncommon summer resident at Oxford. Individuals observed there invariably inhabit cypress trees.

PINE WARBLER (*Dendroica pinus*). Fairly common summer resident.

PRAIRIE WARBLER (*Dendroica discolor*). Breeding range described by Coffey (1936) as northeastern Mississippi. It is not certain whether this section should include Oxford, but the species breeds abundantly in the hills about County Lake, averaging fairly common for the entire Oxford Region. (It was also heard singing just west of Walnut, Mississippi, on or about May 20.)

LOUISIANA WATER-THRUSH (*Seiurus motacilla*). Apparently a rare summer resident at Oxford.

REDSTART (*Setophaga ruticilla*). Status as a breeding bird in Mississippi somewhat uncertain in 1936. It is fairly common, however, around Oxford in summer.

GRACKLE (*Quiscalus quiscula*). Only a fairly common summer resident at Oxford.

COWBIRD (*Molothrus ater*). Common in the Oxford Region in summer. Many of the individuals seen were adult males.

SCARLET TANAGER (*Piranga olivacea*). Probably does not breed around Oxford, but a very late individual seen on May 24 seems worthy of mention in connection with John B. Calhoun's record of a pair seen on June 20, 1939, near Pocahtontas, Tennessee, just across the state line from Mississippi (*Journal of the Tennessee Academy of Science*, 1941, 16:293-309).

BLUE GROSBEEK (*Guiraca caerulea*). Uncommon or rare summer resident. A singing male found on June 2 was probably breeding. A singing female was seen on May 17.

DICKCISSEL (*Spiza americana*). Although Oxford apparently lies outside the breeding range described by Coffey, a few of these birds breed around the airport about 10 miles south of town, where six were recorded on June 18.

GOLDFINCH (*Spinus tristis*). Breeding records lacking in 1936, but the species was recorded in Tishomingo State Park in June, 1939. M. G. Vaiden (THE MIGRANT, Sept., 1940, 11:66-68) also found them 16 miles east of Grenada (central Mississippi) on July 14, 1940. I found the species to breed fairly commonly at Oxford.

TOWHEE (*Pipilo erythrophthalmus*). Coffey (1939) calls this species "very rare . . . in North Mississippi in summer," however, the writer found it to be uncommon to fairly common at Oxford at this season.

LARK SPARROW (*Chondestes grammacus*). Coffey (1936) calls this species a "rare to uncommon summer resident" without reference to particular parts of Mississippi. In view of the fact, however, that none were found in the Oxford Region it can hardly be more than a very rare summer resident there.

DEPT. OF BIOLOGY, EMORY AND HENRY COLLEGE, EMORY, VA.

THE ROUND TABLE

GLOSSY IBIS NEAR MEMPHIS: On September 23, 1945, Mrs. Irene Daniel, Miss Mary Davant and the writer, after hunting over some new territory in Mississippi, decided to stop by Mud Lake, in Tennessee, to see if any of the shorebirds were still present. After passing through the wooded margin and looking across to the far shore, several hundred yards away, we saw two apparently black, heron-like birds fly away over the trees. We at once thought of Glossy Ibis but at that distance, could not be certain. After about ten minutes we saw one of the birds coming back and saw that it alit at the water's edge on the opposite side of the lake, in front of about fifty immature Little Blue Herons and back of a large flock of Blue-winged Teal. In order to get a good look at the unusual bird, I waded across the shallow lake and succeeded in getting within about 125 feet. From there I observed it carefully with six-power glasses until it flew. The bird while about the shore was feeding by continually probing the entire length of its long, curved bill into the mud. Looking closely for the white markings on the face, I was able to see that these were present on two occasions. The first time was when the bird turned his head slightly and I could see the white but could not be sure of its extent; then a little later, it turned its head directly toward me and I could then see a rim of white about the base of bill. When I attempted a closer approach, the Ibis took wing and, with his neck outstretched and his long bill curving downward, made a beautiful silhouette. He gave one guttural note as he flew off over the trees. The bird was almost certainly the White-faced Glossy Ibis (*Plegadis guarauna*) judging by its facial markings and known range. The other quite similar and rarer form, the Eastern Glossy Ibis, is chiefly confined to Florida and is without the white face except for a patch of whitish skin before the eye.—JOE MOUNT, Memphis, TENN.

FALL RECORDS FROM MEMPHIS: A series of trips to Mud Lake, south of Memphis, by a number of our members, produced some records of interest. These trips were taken on August 19 (by 6 observers), Sept. 3 (7 obs.), Sept. 8 (3 obs.), and Sept. 15 (3 obs.). Most of the water birds listed are given below as well as some others of interest. Wood Ibis, 2 on 8/19 and 1 on 9/3; Great Blue Heron, 25 on 8/19, 4 on 9/3 and 2 on 9/15; Amer. Egret, 260 on 8/19, 184 on 9/3, 75 on 9/8 and 70 on 9/15; Snowy Heron, 1 on 8/19, and 3 on 9/8; Little Blue Heron, 162 on 8/19, 120 on 9/3, 90 on 9/8 and 225 on 9/15; Green Heron, 1 on 8/19; Blue-winged Teal, 200 on 8/19, 300 on 9/8 and 500 on 9/15; Semipalmated Plover, 12 on 9/3; Killdeer, noted each trip; Spotted Sandpiper, 3 on 8/19 and 2 on 9/15; Solitary Sandpiper, 1 on 8/19, 2 on 9/3 and 1 on 9/8; Greater

Yellowlegs, 1 on 9/3; Lesser Yellowlegs, 42 on 9/3, 40 on each 9/8 and 9/15; Pectoral Sandpiper, 28 on each 9/3 and 9/8, 110 on 9/15; Least Sandpiper, 26 on 9/3 and 1 on 9/15; Longbilled Dowitcher, 1 on 9/3; Semipalmated Sandpiper, 34 on 9/3 and 9 on 9/15; Wilson's Phalarope, 1 on 9/3; Common Tern, 2 on 9/3; Least Tern, 40 on 8/19, 19 on 9/3, 60 on 9/8 and 5 on 9/15; Compared with normal years, shorebirds were much less numerous than usual this fall. Among the land birds of interest in our lists are: Mississippi Kite, 3 on 8/19; Duck Hawk, 2 on 9/8 and 2 on 9/15 (Mud Lake); Nighthawk, 1 on 10/6 and 12 on 10/7 (rather late); Tree Swallow, 75 on 9/8; Fish Crow, 100 on each 9/8 and 9/15; Red-breasted Nuthatch, 1 on 10/7; Short-billed Marsh Wren, 1 on 8/19, and Brown Creeper, 3 on 10/6, this being rather early.—LUTHER F. KEETON, Memphis, Tenn.

MEMPHIS NESTING CENSUS: The annual Nesting Census was made this year on June 3 and covered Riverside Park which extends along the bluffs above the Mississippi river. Approximately forty members and several visitors participated from 8 a. m. to 5 p. m., and we were favored with good weather. A summary of results showed that 52 species of birds were recorded for the area and these included 238 pair. While a considerable portion of the park's 410 acres was traversed, the count by no means included all birds that were resident. Of nests in actual use, 51 were recorded of 19 species. Not included among these were more than a score of Bronzed Grackle nests from which the young had recently fledged. They were built among honeysuckle vines that covered small trees in a thicket. Perhaps the most interesting nest found was that of a Mississippi Kite, which was situated about 40 feet up and near the top of an old sweet gum just inside the woods. The bird was present and at this date was about due to have laid. Later in the season they were again seen at the nest. This was one of at least two pair which have been nesting in the park woods. A pair of Painted Buntings was located on the bluff. The half dozen Least Terns noted on the river were due to nest later, on the nearby sandbars. Warblers listed during the day were the Hooded, Kentucky, Parula, Sycamore and Prothonotary, the Maryland Yellowthroat, the Redstart and the Yellow-breasted Chat. In the last MIGRANT, Mrs. Coffey has given some results of a later census, taken June 24, in Forest Hill Cemetery, which location we used for our census area in previous years.—LUTHER KEETON, Memphis, Tenn.

PRAIRIE HORNED LARKS AT CORINTH, MISS.: On August 2, 1945, I came across a flock of from 40 to 50 Prairie Horned Larks (*Otocoris alpestris praticola*) about 8 miles west of Corinth. They were in an extensive open area and were feeding over recently ploughed ground. They permitted an approach to within 30 feet and their head markings left no doubt of their identity. The birds were also present the following day. Horned Larks occur all over Tennessee, chiefly as winter visitants from the North, but a flock here in north Mississippi so early in the season might indicate that they gathered from nesting areas nearby or not very far distant.—BENJ. R. WARRINER, Corinth, Miss.

TOWHEE-COWBIRD NESTING DATA FOR 1945: After a mild winter and an unusually warm March, deciduous shrubbery attained dense foliage two to three weeks earlier than usual this year which probably accounts for the relatively numerous Red-eyed Towhees (*Pipilo erythrophthalmus*) that were found nesting in the banding station area. The first nest was found, partially complete, on March 16 with the first of 3 eggs laid March 24. Although the earliest nests were unsuccessful, eggs in one nest were hatching April 13 and 4 young banded April 19. By the end of June 1945, 11 nests had been found in and near the station, while for the 1944 season, only 3 had been located, the earliest hatching that year on May 4 with the entire brood of 5 young leaving on May 12 (nest 20 inches above ground in an Amur river privet hedge).

From 10 of the 1945 nests, data were gathered. The sets varied from 2 to 4 eggs, total 31, plus 8 Cowbird eggs (2 in one nest). As some nests with less than the normal complement of eggs were not found until the interloper had deposited her egg, it seems proper to assume that at least 36 eggs were laid as Cowbirds habitually remove an egg of the host. Only 13 Towhee eggs hatched, 36.1 per cent of the number laid; 6 young matured to the nest-leaving stage (16.6 per cent). All Cowbird eggs were removed for my study collection. Among the entirely unsuccessful nests, one female disappeared at the beginning of incubation; 3 nests were robbed of eggs and 1 of young by snakes or some other predator that removes contents without disarranging the nest itself; in 2 nests, eggs were punctured or were removed, one at a time as in bird predation (possibly Cowbird); one brood of 4 large nestlings, already banded, was taken by a cat.

Most of the nests were built 2-3 feet from the ground in dense shrubbery or vines. One May nest was built 5½ feet up in a syringa bush but another, located in a bit of wildwood 100 yards from the banding station was placed on the ground among plants of the lacy-leaved spreading chervil (*Chaerophyllum Tainturieri* Hook) which grows nearly a foot high but is so feathery that it affords no concealment to the nest. It was unsuccessful. However on June 24, another nest was located a few yards away as a youngster was leaving and the parents excitedly calling. This one had been built 10½ feet from the ground in a tangle of vines interlacing the crowns of saplings.

It seems an odd coincidence that this season no Cowbird egg was found in any but Towhee nests and no Cardinal nests parasitized. In previous years, the latter had taken the brunt of early season parasitism. Although I have a number of April egg-laying records for Cowbirds, the two found in separate Towhee nests on April 6, 1945 are the earliest published for Tennessee.—AMELIA R. LASKEY, Nashville.

NIGHTHAWK USES UNUSUAL METHOD TO RETURN YOUNG TO NEST: On June 28, 1945 at 3:35 P. M. during observations of a nesting Nighthawk (*Chordeiles minor*) on the gravel roof of Hillsboro High School in the suburbs of Nashville, I saw the adult use remarkable strategy to bring together the tiny baby bird and the unhatched egg so that she could cover both for brooding.

Earlier that day, the first egg had hatched but a portion of the shell had clung, in drying, to the breast of the adult. As I went closer to re-

trieve the shell which had dropped, the female (presumably) moved two to three feet from the nest site. In the absence of the parent, the baby wandered at least a foot from the egg. After I had taken a position some eight feet away to watch, the parent tried, with her bill, to guide the baby bird back to the nest site. This seemed to frighten the chick into moving farther away. Seeing what was happening, the adult promptly sat over the baby as if to brood, and in that position, slowly moved toward the egg. After getting both egg and young under her, she settled to brood.

This was the only time during my numerous observations of this pair that this occurred. On later occasions, when young were several days old, the adult would always choose a spot and the babies would come to her at their own discretion.—W. WARREN BOSMAN, Nashville 4, Tenn.

A LATE HUMMINGBIRD: Mild weather during October, together with ample rainfall, caused a prolonged season of bloom among fall flowering plants. Probably because of this, Ruby-throated Hummingbirds were reported by several members well into October. At my own home, one remained extremely late it having been recorded on each morning of the following dates; October 13, 17, 18 and finally on the 20th. Careful examination of the bird on the 18th, showed it to be male. On the last mentioned dates, the bird was feeding among salvia blossoms.—H. O. WATTS, 2010 Riverside Dr., Nashville, Tenn.

NOTE.—In a communication dated Oct. 26, Benj. R. Warriner of Corinth, Miss., stated that he observed a very late Ruby-throated Hummingbird the day before, at the flowers of a hawthorn bush. On the same day, he saw a flock of 60 wild geese going south and commented at the unusual combination.—Ed.

SPRING SEASON AT ELIZABETHTON:* With the exception of a few days the end of January and beginning of February, when morning temperatures dropped to a minimum of 7°, the weather during the winter months was relatively mild. Coopers, Sharp-shinned and Sparrow Hawks were seen on various occasions, but none of the larger species. Ducks were present regularly in the Watauga River vicinity. The list of winter birds included the Kinglets and the Brown Creeper. Grouse were flushed on two trips on Lynn Mountain very close to town. Myrtle Warblers were abundant throughout the winter. Cedar Waxwings in substantial numbers were observed frequently along Watauga and Doe Rivers. Noteworthy was the continuous presence of a goodly number of White-crowned Sparrows in the evergreen hedges at the Franklin Club. With the advent of warmer weather a check was kept on the early arrivals. First dates of observation are for: Red-winged Blackbird, Feb. 15; Rusty Blackbird and Cowbird, Feb. 17; Pipit, Feb. 18; Phoebe and Woodcock, March 4; Purple Martin, March 15; Great Blue Heron, Chipping Sparrow and Savannah Sparrow, March 18; Vesper Sparrow, March 20; Louisiana Water Thrush and Black-crowned Night Heron, March 25; Grasshopper Sparrow and Brown Thrasher, March 27. A most interesting find was that by Dr. Herndon of two Ring-billed Gulls on Watauga River near the Franklin Club on March 18.—FRED W. BEHREND, Elizabethton, Tenn.

*Note.—Above item was inadvertently omitted from our June issue.—Ed.

30th ANNIVERSARY OF THE T. O. S.

From time to time, it is well for busy enthusiasts to pause in their work, to glance backward for a brief summary of their past activities and, after screening the wheat from the chaff, to seek from the residue fresh inspiration for the future. Such a pause was made in October, 1945, and the items which follow will serve to record not only the enthusiasm of the moment but bits of history for those who carry on in years to come. Miss Mary Franc Holloway, our Corresponding Secretary, has furnished the following:

30TH ANNIVERSARY CELEBRATION AT NASHVILLE: On the evening of October 20th, at 6:30 o'clock in the private dining rooms of the B and W cafeteria in Nashville, began a week-end of celebration commemorating the anniversary of a similar occasion which took place just thirty years before—the founding of The Tennessee Ornithological Society.

The festivities were off to an excellent beginning with the dinner meeting presided over by a former president of the Nashville chapter and toastmaster of the occasion, Vernon Sharp, Jr. Impromptu reminiscences of the other years by those members of at least fifteen years standing were headed by Dr. Harry Vaughn, who declares that he would have been a charter member had he been old enough for the founders to appreciate his value to the organization at the time of its origin.

Dr. Gordon Wilson, one of the founders of the Kentucky Ornithological Society and head of the department of English at Western Kentucky State Teacher's College, Bowling Green, delivered the principal address of the evening. Dr. Wilson expressed appreciation to the group for its sponsorship and promotion of the founding of the Kentucky organization. He affectionately referred to the T O S as God-father of the K O S and invited all Tennesseans to be present at the first field meeting of the K O S since the beginning of the war.

The climax of the occasion was reached when the founders were again heard from. While only two of the five charter members were present, others were represented. Prof. H. A. and Miss Suzanne Webb, son and daughter of the late Prof. A. C. Webb, were present and reassured the group of their father's interest in and love for the study of ornithology in Tennessee. Mary Franc Holloway, a niece of Dixon Merritt and at present a member of the Nashville chapter, read a letter from Mr. Merritt to the organization which is included elsewhere in this issue. Following this Mr. A. F. Ganier, who is known throughout Tennessee and the South for his valuable contributions to the study of ornithology, reviewed the founding and early growth of the organization. He reminded the group that the T. O. S. was organized on October 7, 1915 by five Tennessee "bird-men" who gathered one evening at the Faucon's French Restaurant in Nashville and launched the society. The group met two weeks later at the Tulane Hotel for formal organization. Prof. Webb was named president at that meeting. The other two founders were Dr. George R. Mayfield of Vanderbilt University and the late Judge H. Y. Hughes. A sixth member, Dr. George M. Curtis, joined shortly after the first meeting. Other members

were elected the following year, 1916, including Mrs. William P. Morgan of Columbia, Miss Lillie Hasslock (now Mrs. George R. Mayfield), Dan R. Gray, Dr. Harry Vaughn and Dr. Jesse M. Shaver.

In 1930, THE MIGRANT, T O S quarterly appeared, and has been published continuously since that time as a means of coordinating activities and of making permanent record of observations afield. In 1938, a new constitution providing for a representative state-wide board of directors was written and adopted. And some years ago the T O S affiliated itself with the national Wilson Ornithological Club, the National Audubon Society and the Tennessee Academy of Science.

To bring the meeting to a close, Dr. Mayfield engaged in further reminiscences, then pointed out the aims and objectives of the Society for the future including the inauguration of a membership campaign to begin with the thirtieth anniversary and the close of the war. He drew attention to the character moulding possibilities of ornithology as an avocation to engage the energy and interest of youth.

On the day following the dinner, the annual Fall Field Day of the Nashville chapter was held with visiting members as special guests. Members assembled at Idlewild Wood on Stone's river where are located the summer homes of a number of T O S members. Here the colorful autumn foliage and woods floor carpeted with fallen leaves, hickory nuts and acorns, combined with perfect weather to make ideal conditions for a bird hunt. The morning was spent in making a list of birds in the area and was followed by luncheon served on the bluffs overlooking the river. The afternoon was taken up with reports of the morning field trips, a count of the birds listed for the day, a group photograph, a business meeting and words of encouragement from visiting members as well as local members. The meeting adjourned with a promise from every member to be present and to bring a new member to the thirty-fifth anniversary meeting in 1950.

Out-of-town guests for the week-end included representatives from the chapters located at Memphis, Clarksville, Elizabethton, Kingsport and Murfreesboro. The names of the visitors will be found under the group photo which is reproduced elsewhere in this issue.—M. F. H.

SOME EARLY HISTORY: Twenty-nine years ago, Dr. Lynds Jones, then editor of *The Wilson Bulletin*, called on the T O S for a short sketch of it's activities and aspirations. In response, the following report was prepared and submitted; it was published in *The Wilson Bulletin* for December 1916, on page 195.

"TENNESSEE ORNITHOLOGICAL SOCIETY: October 1916 marked the close of the first years work of this organization and the results were quite up to expectations. A great deal of field work has been done and the status of many of the rarer birds has been put on a more definite basis. Lack of time and opportunities have prevented observations on other species whose distribution is still much in question. Local lists have been secured from observers, chiefly in the central part of the State, and revisions and additions to these in future is part of the working plan. Arrangement has been made with the State Department of Fish and Game to finance the publication of several bulletins. A number of new members have been added during the year and efforts have been

made to standardize their observations along systematic lines.

The pleasure and recreation afforded by bird study is being advanced as a substitute for the hunting and killing of game birds. Two full page illustrated bulletins to this end have been prepared and published simultaneously in the Sunday editions of the leading newspapers of the State. Meetings or outings have been held semi-monthly except during the summer months. Several joint outing trips have been taken to localities which appeared to offer special faunal variations.

The first annual meeting was held October 20 in Nashville, and the following officers were elected: Prof. A. C. Webb, president; Judge H. Y. Hughes, vice-president; Dr. G. R. Mayfield, secretary-treasurer; A. F. Ganier, curator. New members elected at this time were H. A. Cummins, Prof. E. Carey Davis, H. E. Myers, Jesse T. Shaver, R. M. Strong and H. S. Vaughn. The curator reported that the study collection of skins, now embracing over one-hundred and seventy species of Tennessee birds, was available for the use of the members. The publication of a list of the birds of the State was postponed for a year, pending the securing of more definite data on certain species. The interest shown by a good percentage of the members of the Society is such that its permanency seems assured.—A. F. GANIER, Nashville, Tenn."

That the T O S has hewn closely to the lines originally set forth above, is well known to all of our long-time members. On the occasion of the Society's 20th anniversary, a special edition of THE MIGRANT (Sept. 1935) was gotten out to celebrate the occasion and in it is a complete history of the first twenty years, prepared by four of the original five founders. Since that time the T O S has traveled along on an even keel, it's most tangible work having been represented by the publication of sixteen volumes of it's quarterly journal, THE MIGRANT.—ED.

DIXON MERRITT, one of our founders, former newspaper editor and now engaged in Federal publications activities at Washington, had planned on being at the 30th anniversary dinner but a change of plans interfered. By way of regrets, he penned the following note of greetings which was read on that occasion by his niece.

"My dear fellow members: I can't come to the Thirtieth Anniversary meeting of the T O S. It breaks my heart but such is the fact. A change in my schedule makes it necessary that I be here at the time. . . . Anyway, perhaps it is not terribly important that I be there. Ganier and Mayfield will be, and they are the ones who have done the work—built the structure. I may have thrown out a shovelful of dirt to make room for the first stone. That's all. Still, small as it is, I am prouder of it than of any other single thing I have done. . . . My love to everybody, particularly the old ones whom of course I knew best. Tell them I will be there in spirit. And I am sure that Webb and Hughes will be too. Ever yours, Dixon Merritt."

Better luck next time Dixon; we missed you truly and we shall count on you not to miss our thirty-fifth.

NOTES, HERE AND THERE

This item comprises a call for our usual quota of Midwinter Census lists ("Christmas Census") to be published in our December issue. We trust that not only will the usual localities be heard from but that new ones will be added. Groups should scout their territory several times beforehand in order to locate all species. The lists should be made between Dec. 20 and Jan 2.

When we learned recently that Maurice Brooks had made a sojourn last May into the Great Smoky Mountains, the thought occurred to us that his impressions of the birdlife there as compared with the mountains of his own State—West Virginia—would be of interest. Upon our invitation, he very graciously penned the interesting article at the beginning of this issue. Professor Brooks is Associate Professor of Wildlife Management at West Virginia University. He is also editor of West Virginia's bird journal, *The Redstart* and is secretary of The Wilson Ornithological Club.

Poems about birds are wanted for a book on the subject, to be published by the Robert Sparks Walker Audubon Society and Elise Chapin Wildlife Sanctuary at Chattanooga. A total of \$100 is offered in prizes and the contest ends March 1st. Further particulars may be secured by writing Madeline A. Walker, 808 So. Greenwood Ave., Chattanooga 4, Tenn.

For forthcoming issues, we are in need of several full-length articles as well as many Round Table items. Your Editor is anxious that more of our members become frequent contributors to this journal.

This number constitutes our 30th anniversary issue and its lateness is partly due to holding it over for inclusion of matter covering the celebration of that occasion in late October.

Recalling the oft quoted words of Bobbie Burns—"Oh wad some power the giftie gie us, to see oursel's as others see us!"—we invited our long-time friend and fellow bird student—Gordon Wilson—to be "guest editor" for this issue. He very kindly responded with the appreciated tribute which follows. Dr. Wilson is president of The Kentucky Ornithological Society and editor of its publication, *The Kentucky Warbler*.

— EDITORIAL —

THIRTY YEARS OF THE T. O. S.

As a member of the Kentucky Ornithological Society I want to greet the Tennessee Ornithological Society on its thirtieth birthday and to wish it many happy returns of the day, in true birthday style. The two organizations have always been closely connected; in fact, the K. O. S. owes its very existence to the T. O. S. and the encouragement given the few Kentuckians who started the K. O. S. in 1923. Thirty years is a fairly long time in the life of people, but a mere breathing space in the life of a great institution, such as the T. O. S. has grown to be. May the T. O. S. live so long that all of us who have known it will seem in distant times to have been mythological creatures!

In these thirty years much has been accomplished in ornithology. The great era of discovering and naming species passed before our time, but we have been privileged to live when ornithology can become more human, more a matter of common culture than it used to be. The "bird man" has ceased

THE MIGRANT

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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

to be the brunt of mirthful jokes in most of Tennessee and Kentucky and now has a chance to pursue his studies with the good wishes of even the most ignorant. The publications of the T. O. S., the radio programs, and the many public addresses before schools and clubs have familiarized thousands of people with the purposes of bird study and thus made it known that ornithology is a worth-while study or hobby. By cooperating with various state and national agencies the T. O. S. has also been able to do much toward preserving wild life and promoting a saner attitude toward man's responsibility to nature. Probably the best achievement has been the bringing together from every profession and occupation, people who get enjoyment out of studying birds. I know of no state or national organization that has so stressed the fellowship of students of the out-of-doors.

Certainly in these post-war years there will be a greater tendency toward outdoor hobbies. Limited for a time in our travels by the lack of gasoline, many of us will eagerly go camping again or will drive to the great state and national parks and forests. The ornithologist will have a great opportunity to make converts among outdoor people; the T. O. S. and all other state organizations of bird students need a steady and healthy increase in membership from all parts of the country. That increase will widen the influence of the brave souls who have fostered the organizations in less happy days and will bring pleasure and knowledge to countless thousands.

Ornithology as it now exists embraces such a wide and varied field that it challenges the interests of many types of people. Even at this time we are merely beginning the study on a comprehensive scale. Records of field trips, of migration, nesting studies, food habits, seasonal censuses, photographic portrayal, records of bird song, public lectures, radio programs, and publication of findings, these are among the many phases of study and usefulness the hobby offers. It is in that time of greater usefulness that the T.O.S. is to live on and function. A great opportunity lies before it and may its many loyal members put their shoulders to the wheel and carry the organization on to even greater heights.—GORDON WILSON, Bowling Green, Ky.

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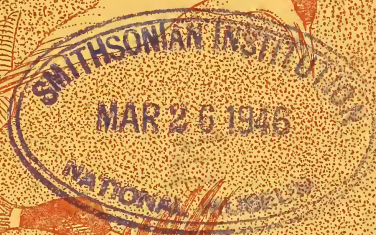
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EVENING GROSBEAKS IN NORTHEAST TENNESSEE

By FRED W. and MARY FERN BEHREND

(FOREWORD.—*It is with especial satisfaction that we are able to record for the first time in Tennessee the Eastern Evening Grosbeak (*Hesperiphona v. vespertina*) and that the initial record was followed up with later observations which throw further light upon its habits and habitats. With the exception of one or two North Carolina records, this is the farthest south this northerly ranging species is known to have occurred on its occasional winter invasions into the United States. Of the localities mentioned, Elizabethton is in Carter County, 18 miles south of the Va.-Tenn. line; from that town, Milligan College and Johnson City are 6 and 10 miles further westward, respectively. The first observation was made by Mrs. Behrend who sent in the notes given below. This was followed later by further observations chronicled by Mr. Behrend.—ED.*)



EVENING GROSBEAK

From a drawing by

ALLAN BROOKS.

Taken from Ralph Hoffman's
"Birds of the Pacific States"
Courtesy, Houghton Mifflin Co.

(By Mary Fern Behrend)—At 10 A.M. on Nov. 22, 1945, while engaged with work in the kitchen of our home at Milligan College, Tenn., I glanced out of the window to see what birds were about the yard, when I noticed several birds of a kind I had never seen before. They were about thirty-five feet away and were feeding on the dry seedlets of an ash tree. After watching them for a few moments from the window and seeing how deliberate they were, I determined to identify them. Picking up the binoculars I went out into the yard and, approaching cautiously, found that they were not disturbed in any way by my close approach and they continued to feed on the seedlets.

There were four of them in all and picking out the more brightly colored male, I began to analyze his characteristics. The beak I knew at first glance was definitely that of a Grosbeak. He was stockily built, bright yellow with black on head which outlined a prominent yellow line above the

eye, black wing with large, solid white patches next to the back and a short tail that was black. The bird glistened in the bright, sunny, frosty atmosphere.

After getting all markings definitely in mind, I ran back into the house, picked up the volume of Fuertes color plates of Massachusetts birds and, keeping an eye on my guests, I turned to the section on Grosbeaks. There, with the illustration before me and the birds in view nearby, I learned the name of my discovery—the Eastern Evening Grosbeak. For about an hour the foursome were seen on the premises, feeding from tree to tree. After that, duties called me away and I had no further time to watch.

(By Fred W. Behrend)—The Grosbeaks were not seen again about our home, but on Dec. 31 four, and possibly the same, birds were seen at the home of Prof. Sam Jack Hyder, one of our T.O.S. members, on the Milligan College grounds some four hundred yards from our place. They were identified by means of our color plates which we had loaned to Prof. Hyder. He stated that the birds were observed from a window of their porch and that they remained for three or four hours, feeding upon the ground and in the maple trees, apparently upon the seeds.

The next record for the area is that of Mr. Bruce P. Tyler, of Johnson City, who, on Jan. 6, observed four of the birds at his home in the suburbs. His more detailed account will be found in the Round Table section of this issue.

On Jan. 13, Dr. Lee Roy Herndon, who had been keeping a lookout for the birds at Elizabethton, was called by Mrs. Hugo Doob, member of the Elizabethton Chapter of T.O.S., to say that she had found a flock of eight near Riverside Drive. This was about noon and he went at once to view them himself, furnishing later the following information. "Upon arrival, I located the Grosbeaks near where they had been reported, but instead of eight there were between fifteen and twenty. I may not have seen all of them as some were on the ground, some in shrubbery and others in large maple trees. I did not disturb them as I wanted other members of our group to see them. In about an hour I returned to the same vicinity with other members, but no trace of the birds could then be found nor could they be found on a subsequent visit later in the day. They were not seen again for more than two weeks although we were on the lookout for them."

Not having as yet had the good fortune to view the rare visitors and being therefore especially on the alert for their reappearance, I was rewarded on Jan. 31 by finding a flock of amazing size, while driving into Elizabethton during the lunch hour from my place of work at the outskirts of the town. From a street in the back of the First Baptist Church, just one block from one of the main thoroughfares of the town and only about three blocks from the business section, my roving eye caught a glimpse of some birds whose colors attracted by attention. They were sitting on bench and table near the picnic fireplace on the church lawn. I hurriedly parked the car and walked back the short distance past a hedge partially screening off the place where I had seen the birds. From my observation point on the sidewalk, some seventy-five feet away, I had a good view of about ten of the birds of whose identity there could be no doubt. The more or less bright yellow of the body, the white on the black wing and the light color of the stout bill were prominent enough to recognize the birds, without

the benefit of binoculars, as Evening Grosbeaks. Without delay I went to the home of Reverend Floyd V. Starke which is adjacent to the church yard to telephone Dr. Herndon and inform him of my discovery. Mrs. Herndon answered and said she would come immediately to see the birds. In conversation with Reverend Starke, I learned in the meantime that the Grosbeaks had been in the vicinity of their home for some time and that from the kitchen window Mrs. Starke had fed them almost daily with scraps of food. Upon arriving back at the birds' resting place, I saw them take to flight and disappear. After about three to five minutes and just as Mrs. Herndon was approaching in her car, one group of a dozen or so of the Grosbeaks came into sight from across the low flat roof of the church annex and in very quick succession some three flocks of similar size followed. Their flight caused a distinct whir in the air. The majority of them alit in a large maple tree at the edge of the church yard while a smaller number perched on the edge of the roof of the church annex. As Mrs. Herndon and I walked down the lawn, still more came in. A superficial count revealed about fifty in the large maple tree in front of us. It was apparent that the males were greatly outnumbered. The duller color of the female is an easily distinguishing mark as is the white tail band that is distinctly in evidence while the bird is in flight. Upon our approach they winged away, part of them flying into large maple trees across the street, part of them staying closer, scattering on the ground behind a hedge in a neighboring garden and in two small nearby trees in that same garden. Still others settled down on the roof of a chicken house. They milled around in such numbers that it was difficult to count them, but we undertook to do so as accurately as possible. With the aid of binoculars Mrs. Herndon counted some fifty-four birds in the large maple trees across the street, while my own count of the two groups in the small nearby trees numbered eighteen. This made a total of some eighty birds, and we were satisfied that this was a conservative minimum figure. We watched for about ten minutes and then departed to resume our respective duties. Practically all the time we were watching the birds gave a somewhat chirping sound of which we made mental note in order to more readily locate them in future. Further inquiry of Mrs. Starke later in the day revealed that the Grosbeaks had been in the vicinity of their home for the past two to three weeks and that individuals, having become used to being supplied with food, appeared regularly in mid-morning at the kitchen window sill, after the manner of Cardinals, and that one of the Grosbeaks made his presence known by pecking on the window pane. In looking over the surroundings, I found that there is an unusually large mimosa tree in the front yard of the parsonage, which tree is still bearing a good many seed pods, making me wonder if these birds were not feeding on the seeds of this tree. In the church yard proper there are six small trees, two of them still bearing seed pods. Furthermore, there is a fairly large poplar tree at the edge of the church yard, and the whole neighborhood abounds with maple trees of considerable size.

We are in hopes that our visitors from the far Northwest will remain with us for some weeks longer and that meanwhile we may learn still more of their habits and how they adapt themselves to an environment so different from their native home.

PEREGRINE FALCONS IN A WEST TENNESSEE SWAMP

By WALTER R. SPOFFORD

Since very little is known about the nesting of the Peregrine Falcon* in hollow trees along the Mississippi river, the writer has been making an annual trip each spring to the nest found in northwestern Tennessee in 1942. (MIGRANT, 14:25-27, 15:66-67) and the following is an account of the trip of April 15 to 19, 1945, with Dr. Chas. F. Pickering. The falcons raised two young in the broken-off top of a dead cypress in 1942, and four young in 1943 in a hollow limb of a live cypress half a mile away. In the latter site they raised three young in 1944 but in the spring of 1945, no young were raised although the falcons were in residence. Since the behavior of the birds about the nest site during 1945 was of considerable interest, it seems worth while to report the observations in some detail, as set forth below.

Upon our arrival at the 1944 nest tree, at 4:30 p.m. on April 15, no alarm or defense note greeted us and no evidence of the birds was seen for the first fifteen minutes. At 4:45, a small pale falcon left the nest and flew off to an unseen perch, without any sound. Five minutes later she (later events indicated that this bird was a female) returned to a perch near the eyrie, where she preened her plumage and watched out over the swamp. At 4:55 she called (several short wails) and the male came in with prey. The female flew over close to him but he retained the prey, carried it into the eyrie, then walked out on a limb. Several minutes later he dropped off the limb, close over my head, without (apparently) seeing me, and flew north. The female close-by wailed several times and then was heard no more at that position. At 5:03 several short wails were heard from an unseen perch to the north, and similar wails were heard from this source at intervals 11 times, terminating at 5:48 when a Peregrine (male?) returned to the eyrie. Immediately he displayed with bowed head and spread tail, giving a lengthy series of variations of the "eee-chup!" note. At 5:50 all was quiet, and after two minutes we clapped our hands loudly, without effect. A minute later the female returned from the west to a perch near the eyrie, and at 6:00 she called "kleb-chip" several times. At 6:10 several short wails came from an unseen perch to the north. At 6:15 the female was still on the perch, preening, and observation was discontinued. It is probable that the male had left the nest at approximately the time of the hand-clapping, but this was unobserved.

The male bird appeared to be the same as of previous seasons: a largish, richly pigmented one, black and white below (salmon coloration on breast not observed), tail appearing black and feet and cere bright yellow. Whereas the female of previous years had been of good size, a well-marked dark bird, the present female was obviously different. Decidedly small, with pale, faded markings, a gray instead of a black head, tail gray with narrow bars, feet pale yellow, and no yellow in cere, this falcon was in striking contrast to that of previous years.

Several things are of interest in the account above. The lack of eyrie defense indicated that the nest was probably empty, as did the absence of

* *Falco peregrinus anatum* (Duck Hawk), of the A. O. U. Checklist.

food-calls when the male brought prey. The male was obviously engaged in courtship, bringing prey into the eyrie, but he failed to complete the food-pass to the female although she flew to him. His display at the nest was similar to the familiar "ledging" of cliff-nesting falcons early in the season when the male takes the initiative and makes "scrapes" on various ledges, giving the "eee-chup" note. Such late season behavior of the male is common in non-breeding pairs, but whereas in such cases, the female fails to respond, in the present case the female did respond but the male appeared to ignore her.

On April 17 we again visited the nest, and at 9:30 A.M. there was no trace of the birds. At ten, I climbed to the nest and found only a well-made scrape such as the female makes to lay her eggs, and earlier, the male makes as part of courtship. Ten minutes later while still at the nest, a very blue Peregrine suddenly flew in to alight close to my feet on a big limb at the nest entrance, but suddenly reversed with a perceptible rushing sound and flew out again, giving the "kack!-kack!" alarm note. Immediately there were two birds circling around, both frequently giving the familiar battle-cry, but by no means with the frequency and vigor used when the nest has young. Suddenly a third Peregrine flew out of a nearby tree and alighted in another, and then flew off. This bird was large, and dark, with distinctly brown wings and tail. During descent from the eyrie the alarm note was heard several times, and then all was quiet. At 11:00 a "kleb-chip" was heard twice, followed by a few short wails, and a short time later observation was discontinued.

At 9:15 A.M. of Apr. 19, the eyrie was quiet, until about fifteen minutes had passed when the male came in to the nest with a Mourning Dove, closely followed by a large female falcon in well-worn immature plumage. The male "eee-chupped" as he alighted on a food perch close to the nest, and the immature female on a perch a few yards away. The small adult female came in to a limb close to the male and meantime the immature bird had disappeared, and was not seen again. The male now began to deplume and eat the dove without offering it to the small adult female, and the latter preened her plumage while the male fed. Soon the female flew off east, and the male dropped close above me, circled up and went into the nest, at about 9:50. At 10:15 the adult female was in the next tree, preening, and a few minutes later a female called from a perch west of the nest, at which the male left and flew rapidly in that direction. Ten minutes later the adult female flew into the nest, then walked out on a limb, sat and preened. She flew off when I shouted, and then returned to the neighboring tree, while the male was now seen flying in circles overhead. No further observations were made. At this date, had nesting occurred, there should have been young nearly ready to leave the nest, so it was regarded now as being too late for them to commence.

The following is considered to be a plausible hypothesis of the situation. The original female having disappeared, the male's display over the territory attracted two females, one of these adult, but small, of light pigmentation, and very possibly a very old falcon. This bird, although attracted to the display of the male, brought no response from him. The other female, immature, was attracted by the male, and obviously his display was directed at her. Her response, however was insufficient to bring about mating and

breeding, so a triangle situation developed. Surprisingly, neither of the females seemed to resent the other, as has been seen to occur at other eyries when a second female appeared, but perhaps actual nesting by one is necessary before it will defend against the intrusion of another female. At all events, we await a trip to the eyrie in 1946 with the greatest of interest, and it is hoped that breeding will be resumed. Perhaps it will be possible to identify the female of the new pair, if a survivor of the 1945 triangle.

VANDERBILT UNIVERSITY, NASHVILLE, TENN. December, 1945.

ANNUAL MIDWINTER BIRD CENSUS

By T. O. S. MEMBERS

The 17th midwinter bird count to be presented by THE MIGRANT is given below and yields further information on the relative abundance of Tennessee's winter birdlife. We formerly called this the "Christmas Census" but for one reason or another the listing dates could not be held close enough to that holiday to warrant continuance of that designation. In spite of inclement weather, our various listing groups look forward to the occasion with keen pleasure and loyally turn out to do their part. The series of lists thus produced are of lasting scientific value and afford source material for further study and reference. Somewhat improved conditions over last year raised the State total to 96 species and this compares with 89, 99, 108 and 94 in the years immediately preceding. We include only full species, thus omitting a number of subspecies known to be present. While we list only "Chickadees", the Appalachian (southern Black-capped) was found in the Great Smoky mountains. Rain and poor visibility interfered with the Memphis, Nashville, Great Smokies and Elizabethton lists, reducing particularly the number of individual birds recorded. A description of two immense birds roosts that prevailed in and near Nashville, will be found in the Round Table section.—Ed.

NOTES ON THE CENSUS

Memphis.—In the late afternoon, about 50,000 of the various "black-birds" were observed at a roost in Elmwood cemetery. The Brewer's Black-birds, identified by Robert Tucker, were the first mid-winter record. The Gulls were seen on the Miss. river. Among the "missed" species were Red-headed Woodpeckers and Leconte's Sparrows, both found regularly to date.—Nashville.—Most of the ducks were found on Radnor lake. The Bob-whites were flushed at 5 locations and of the 121 Doves recorded, 120 were in one flock. Sapsuckers and Brown Creepers were more common than usual. Of the Robins, 300,000 were at a roost described in the Round Table of this issue. A Red-breasted Nuthatch was recorded on Dec. 9. Because of rain, the following usually found species were missed; Black and Turkey Vultures, Screech Owl and Savannah Sparrow.— Great Smokies.— Both Appalachian and Carolina Chickadees were noted as well as both Slate-colored and Carolina Juncos. Tracks of Ravens were seen in the snow on day count was made and one or two birds were seen on several days during Dec. Seen in the area on Dec. 27, was a Great Blue Heron and on Dec. 29, a Fox Sparrow.—Clarksville.—(Dec. 16 list). The Pipits were in river bottoms. Of the Cardinals, 28 were counted in one flock, near

	Memphis Dec. 30	Nashville Dec. 23	Great Smokies Dec. 30	Clarksville Dec. 16	Clarksville Jan. 6	Henderson Dec. 31	Elizabethton Dec. 23	Murfreesboro Dec. 23	Greeneville Dec. 26
Number of species -----	73	68	56	52	46	51	40	38	34
Number of Individuals -----	19883	314975	1442	1040	6565	970	1412	328	925
Number of observers -----	26	20	27	2	5	2	8	2	2
Horned Grebe -----	---	---	---	---	1	---	---	---	---
Pied-billed Grebe -----	1	1	---	---	---	---	---	---	---
Double-crested Cormorant -----	10	---	---	---	---	---	---	---	---
Great Blue Heron -----	16	1	---	2	---	---	---	---	---
Canada Goose -----	16	---	---	---	---	---	---	---	---
Common Mallard -----	6	150	---	8	---	35	---	---	---
Black Duck -----	---	5	4	---	---	---	---	---	---
Gadwall -----	---	5	---	---	---	---	---	---	---
Wood Duck -----	1	---	---	---	---	---	---	---	---
Ring-necked Duck -----	31	7	---	---	16	25	---	---	---
Canvasback -----	---	2	---	13	---	---	---	---	---
Lesser Scaup -----	41	10	---	---	17	---	---	---	---
American Goldeneye -----	---	1	---	---	---	---	---	---	---
Bufflehead -----	---	4	---	---	---	---	---	---	---
Ruddy Duck -----	---	2	---	---	---	---	---	---	---
Red-breasted Merganser -----	---	---	---	1	---	---	---	---	---
Turkey Vulture -----	30	---	30	3	13	3	---	---	5
Black Vulture -----	11	---	5	4	4	---	---	---	1
Sharp-shinned Hawk -----	1	---	---	---	---	---	---	---	---
Cooper's Hawk -----	2	---	1	1	---	---	---	2	---
Red-tailed Hawk -----	13	9	1	2	2	---	---	---	---
Red-shouldered Hawk -----	15	2	---	1	---	4	---	---	---
Marsh Hawk -----	9	5	---	1	---	1	---	2	---
Duck Hawk -----	---	---	1	---	---	---	---	---	---
Sparrow Hawk -----	22	12	3	1	---	---	6	5	1
Ruffed Grouse -----	---	---	6	---	---	---	---	---	---
Bob-white -----	95	31	12	15	---	---	---	2	---
Wild Turkey -----	---	---	2	---	---	---	2	---	---
Coot -----	1	5	---	---	---	---	---	---	---
Killdeer -----	27	11	10	---	---	4	3	8	---
Wilson's Snipe -----	---	1	1	---	---	1	---	---	---
Herring Gull -----	2	7	---	---	---	---	---	---	---
Ring-billed Gull -----	48	---	---	---	---	---	---	---	---
Mourning Dove -----	78	121	110	14	20	---	91	5	147
Barn Owl -----	---	---	---	---	---	---	---	1	---
Screech Owl -----	---	---	---	---	---	---	2	2	---
Great Horned Owl -----	---	1	---	---	1	---	---	---	---
Barred Owl -----	1	3	---	1	1	4	---	1	---
Belted Kingfisher -----	3	6	1	1	1	1	---	---	---
Flicker -----	74	29	5	6	5	10	4	1	4
Pileated Woodpecker -----	---	12	5	2	3	2	2	1	2
Red-bellied Woodpecker -----	35	20	---	6	6	6	---	1	1
Red-headed Woodpecker -----	---	1	---	---	6	2	---	---	---
Yellow-bellied Sapsucker -----	9	21	---	4	4	1	4	---	---
Hairy Woodpecker -----	16	9	6	3	---	2	4	---	---
Downy Woodpecker -----	56	43	10	11	7	5	29	2	3
Phoebe -----	1	2	2	1	---	---	1	---	---
Blue Jay -----	176	42	---	10	15	14	40	3	6
Horned Lark -----	11	315	---	2	15	---	21	163	18
Crow -----	118	74	150	35	28	10	204	200000	500
Fish Crow -----	11	---	---	---	---	---	---	---	---
Chickadee -----	166	90	98	13	8	16	41	8	5
Tufted Titmouse -----	29	41	22	11	8	8	49	2	7
White-breasted Nuthatch -----	6	2	3	---	7	---	---	1	2
Red-breasted Nuthatch -----	---	---	13	---	---	---	---	---	---
Brown Creeper -----	15	17	9	---	1	1	---	---	---
Win'er Wren -----	10	4	9	8	1	2	2	1	---
Bewick's Wren -----	11	1	---	2	---	3	---	2	---
Carolina Wren -----	83	53	8	14	9	8	39	5	7
Mockingbird -----	177	82	6	4	7	3	28	2	5
Brown Thrasher -----	18	---	2	---	---	9	---	---	---
Robin -----	2342	310000	97	415	19	86	1	21	20
Hermit Thrush -----	8	11	19	---	1	3	5	---	---
Bluebird -----	73	98	25	16	29	22	37	3	11
Golden-crowned Kinglet -----	89	1	45	---	---	4	9	---	2
Ruby-crowned Kinglet -----	9	---	8	---	---	1	3	---	---

	Memphis Dec. 30	Nashville Dec. 23	Great Smokies Dec. 30	Clarksville Dec. 16	Clarksville Jan. 6	Henderson Dec. 31	Elizabethton Dec. 23	Murfreesboro Dec. 23	Greeneville Dec. 26
American Pipit	---	---	---	25	---	---	---	---	---
Cedar Waxwing	29	29	1	29	12	15	16	---	1
Migrant Shrike	36	3	---	---	---	4	1	---	1
Starling	6720	1775	33	11	6100	7	108	---	105
Myrtle Warbler	222	23	3	2	5	1	58	28	4
Palm Warbler	---	---	---	---	---	---	---	1	---
English Sparrow	200	330	72	19	45	40	65	---	4
Meadowlark	255	112	22	1	9	2	---	6	---
Redwing Blackbird	3445	---	6	---	---	1	---	---	---
Rusty Blackbird	150	67	---	18	1	165	---	---	---
Brewer's Blackbird	25	---	---	---	---	---	---	---	---
Bronzed Grackle	2534	15	---	---	---	4	---	2	---
Cowbird	87	227	60	---	---	---	---	---	---
Cardinal	301	217	49	89	29	25	76	12	7
Purple Finch	35	46	25	3	5	2	8	6	15
Pine Siskin	---	3	---	---	---	---	---	---	---
Goldfinch	218	67	54	33	9	45	116	12	11
Red Crossbill	---	---	9	---	---	---	---	---	---
Red-eyed Towhee	14	91	14	19	7	---	4	2	2
Savannah Sparrow	7	---	---	3	---	---	---	---	---
Vesper Sparrow	---	---	1	---	---	---	---	---	---
Junco, Slate-colored	864	218	170	54	45	125	112	17	1
Tree Sparrow	7	---	---	---	---	---	---	---	---
Chipping Sparrow	1	---	---	---	---	---	---	---	---
Field Sparrow	45	---	81	15	2	36	83	31	2
White-crowned Sparrow	47	25	---	6	2	9	43	3	8
White-throated Sparrow	582	85	53	66	18	64	47	19	5
Fox Sparrow	40	5	---	5	2	10	2	---	---
Swamp Sparrow	30	9	1	3	5	5	---	---	---
Song Sparrow	111	76	32	8	5	14	46	5	3

sundown. (Jan. 6 list). 5 of the 6 Red-headed Woodpeckers and the 7 White-breasted Nuthatches were found at the Dunbar Cave grove.—Elizabethton.—Had this list been made on Dec. 31 instead of the 23rd, it would have included the first Tennessee census record of the Evening Grosbeak.—Murfreesboro.—The Barn Owl was resident in a hollow oak tree on grounds of Prof. Davis who also reports that the Crows were at a roost in a cedar woods and may have been considerably underestimated.—Greeneville.—Seen near the date of census were, on Dec. 24, Canada Goose, 18; Dec. 25, Bob-white, 3; Dec. 27, Bewick's Wren 1; and Dec. 28, Phoebe 1.

LOCALITIES, WEATHER AND PERSONNEL

Memphis.—Dec. 30. Same areas as covered in previous years with exception of no party in boat on Miss. river. City suburbs 10%; open pasture-lands 15%; deciduous woodlots 40%; bottom lands, 35%. Dawn to dusk. Heavy low-hanging clouds. Fog in a.m., poor visibility. Temp. 45. S-west wind in p.m. Water standing in open fields and bottom lands. Seven parties including 26 observers. Total party-hours 56 (48 on foot, 8 in car); total party-miles 138 (58 on foot, 80 by car). Mrs. Floy Barefield, Mrs. Ben B. Coffey, Jr., (compiler), Mrs. Irene R. Daniel, Capt. Anna Davant, Lincoln Emery, Jr., Mr. and Mrs. L. G. Guth, Mrs. Ruth Harrison, Pauline James, David Johnston, John Jolly, Luther F. Keeton, Lawrence C. Kent, Joe Mount, Dr. Clarence E. Moore, Kenneth Moore, Patricia Moore, Lt. Henry Parker, Herbert Shapiro, Alice Smith, Mrs. M. L. Torti, Maurice Torti, Jr., Robert Tucker, Rose Wooldridge and Allen Zeigler.—Nashville.—Dec. 23. Radnor lake Overton Hills forest, Hobb's to Tyne roads, Warner Parks, Hillwood, Bellemeade, Cumberland river bottoms of Bell's bend and above Shelby park,

and Mill creek. 25% open fields, 20% dense woods, 30% wooded pastures, and 30% thickets and old-fields. 7 a.m. to 4 p.m. Cloudy in a.m. with visibility not good; light rain continuously after 1 p.m. greatly curtailed listing. Temp. range, 31 to 33 degrees F. North wind, light. Ground freezing but now bare after a week snow covered. 20 observers in 9 parties. Total party-hours 110. 26 miles on foot, 40 by car. B. H. Abernathy, John B. Calhoun, Wm. Crouch, Jane Farrar, Albert F. Ganier (compiler), Bob Hickerson, Helen M. Howell, Phillip Humphries, Lane, Mrs. Amelia R. Laskey, G. R. Mayfield, Donald Maynard, James Robins, Edw. Schreiber, Robert Sollmann, Walter R. Spofford, Luttrell Thomas, H. S. Vaughn, W. M. Walker and G. B. Woodring.—Great Smoky Mtns. National Park, Tenn., Dec. 30 (same area as in past 8 years), circle of 7½ miles radius centering on Bull Head of Mt. LeConte including a section of the Tenn.—N. Carolina divide from Indian Gap to Mt. Kephart; towns of Gatlinburg and Pigeon Forge. Spruce-fir forest, 30%, Deciduous forest 15%, orchard 15%, open farm land and field borders 20%, old-fields 5%, towns and suburbs 10%. 7 a.m. to 4 p.m. Overcast and becoming threatening in a.m., light rain developing in early p.m. and continuing to night. Temp. range 38-50 degrees. Light wind. Ground bare up to alt. 3500 ft.; snow covered at higher altitudes with snow blanket of 13 inches at 5000 ft. Altitude range 1200 to 6100 feet. 27 observers in 7 parties. Total party-hours, 39; total miles 130 (85 by car, 45 on foot). Fred W. Behrend, Mr. and Mrs. Harvey Broome, Warren Burgus, Mary Ruth Chiles, Brockway Crouch, Thos. W. Finucane, Robt. Garber, Ralph Garrett, Harry Henry, Dr. Lee Roy Herndon, Elizabeth Johnson, Wm. M. Johnson, Mr. and Mrs. Frank Leonard, Henri Levy, Charlton Mabry, James R. Mattocks, Mr. and Mrs. Franklin Odell, Jr., W. F. Pearson, Herbert Pomerance, Arthur Stupka, Roy A. Wedekin, Dr. Dorothy E. Williams and Wm. Yambert.—Clarks-ville.—Dec. 16. Clarksville to Marks Slough and Lock B, in Cumberland river bottoms, different routes used for coming and going. Weather clear; wind light, N-W; 7:30 a.m. to 6 p.m.; 10 miles on foot. Alfred and Edward Clebsch.—Jan. 6. Dunbar cave, Idaho Springs marsh, thence to Red river, Norman Young farm and sheep farm. Mostly on foot. Weather clear; light south wind; 9:30 a.m. to 5 p.m. Dr. C. F. Pickering, H. C. Phillips, Russell Cook, Edward Clebsch and Alfred Clebsch (compiler).—Henderson.—Dec. 31. Henderson to Lakes LaJoie and Placid in Chickasaw State Park, Forked Deer river bottom and Highway 100 to RR 2 miles south of Hen-derson, Logan's lake. Weather cloudy, rather heavy in a.m., somewhat lighter in p.m. Cold N-W wind; temp 34. 56 miles by car and 7 on foot. William Malone and Robert L. Witt (compiler).—Elizabethton.—Dec. 23. Watauga and Doe rivers, Buffalo and Gap creeks, Holston and Lynn moun-tains. 7:30 a.m. to 5:00 p.m. Dense fog along streams until 10 a.m.; overcast all day; calm; temp. range 17-40 degrees. Ground covered with about 1 inch of snow except south hillsides bare. 8 observers, 6 parties Total hours afield, 35; total miles, 32 (on foot). Mr. and Mrs. Fred Behrend, J. C. Browning, Dr. and Mrs. Lee R. Herndon, Prof. Sam Jack Hyder, Nelta Hyder, and W. F. Pearson.—Murfreesboro.—Dec. 23, 25 and 26 (several hours each day). Suburbs of the town and a short distance into the country. Cloudy and rainy; wind light. Henry O. Todd and George Davis (compiler).—Greeneville.—Dec. 26. Area along Roaring Fork and Bays Mountain. Wooded 65%, pasture land 35%. Weather fair; temp. range 35-44; wind W., 30 m.p.h. Hours, 6; miles, 4. Ruth Reed Nevius and Richard Nevius.

THE ROUND TABLE

A REMARKABLE ROBIN ROOST AT NASHVILLE.—During the present winter an immense concentration of Robins have remained in the vicinity of Nashville and each night have occupied a roost in the western portion of the city. Almost unfailingly these birds leave early in November and are rarely seen until a few begin to straggle back in late December. Normally, vast numbers are with us in February and March. In spite of the fact that the past winter has been unusually cold, the Robins have been able to subsist without difficulty upon an abundant crop of hackberries. However, during many winters the hackberry trees are abundantly laden without Robins remaining to partake of them. The roost described below has been of particular interest because of the fact that other species of gregarious birds have been present only in relatively small numbers.

The area occupied lies 3 miles southwest of City Hall Square, at the end of old Clifton Road and a few blocks north of Charlotte Ave. It occupies a basin shaped cove, a half mile across, the rocky sloping sides of which are densely covered with a thicket of haw, crab apple and stunted scrubby growths of hackberry and mock orange. Only a few trails cross the area in spite of the fact that the city extends on beyond and it's disuse made it an ideal roosting place. Late in November the writer noted large flocks of Robins flying westward, in the direction of the roost, and on Dec. 10, definitely located it in the above mentioned spot. This roost was occupied during the winter of 1943-44, chiefly by Starlings, and was described in *THE MIGRANT* 1944, 15:9. Local residents state that the roost had been "building up" since summer, doubtless augmented steadily by migrants from the North. For our Christmas census list, taken Dec. 23, the writer and others visited the place and for twenty minutes watched almost continuous flocks coming in from every direction. Our estimate was 300,000 Robins, 200 Starlings and 25 Cowbirds. A visit a week later showed the roost on the increase and it reached it's peak by mid-January. On the 19th, we estimated between eight and ten hundred thousand birds present. Of these, all were Robins except approximately 35,000 Starlings and 1200 Cowbirds. On Jan. 26, another visit was made and the Robins had dwindled to a tenth of their peak while the Starlings and Cowbirds remained the same. A few Grackles and Rusty Blackbirds were seen and heard at dusk.—G. R. MAYFIELD, Nashville, Tenn.

IMMENSE BIRD ROOST NEAR MARTHA, TENN.—During the month of January, 1946, I had the opportunity to make observations at an immense bird roost consisting of Starlings, Bronzed Grackles, Robins, Cowbirds and much smaller numbers of Redwings and Rusty Blackbirds. It's location is 21 miles northeast of Nashville, a half mile south of the Lebanon pike and just west of the little village of Martha. At this place, there is an extensive woodland of young cedar trees and in these the birds find protection amid the evergreen foliage. I was first told of the place by Mr. Joe Estes who accompanied me there with his son, on Jan. 14 in the late afternoon. Following this, other visits were made to the roost on Jan. 19, 26, 27 and 30, by groups of from two to five, composed of Bill Crouch, J. R. Forbes, A. F. Ganier, Don Maynard, J. D. Smith, W. R. Spofford, Robt. Sollmann,

Luttrell Thomas and the writer. The following notes summarize the observations.

The first birds to arrive were the Robins and these came in from all directions in dispersed flocks. They first alighted among the upper branches of the deciduous trees that grew among the cedars and then noisily dropped into the green foliage. Shortly after, immense flocks of Starlings and Grackles came in and congregated among the upper branches of a large grove of deciduous trees near our observation point at the west end of the roost. So numerous were they that they covered the upper branches of dozens of trees like so many leaves and in one large, spreading elm, the limbs bent down almost to the point of breaking. Vocally, they were noisy indeed and the sound of their wings when they finally took sudden departure for the cedars made a buzzing roar. The Cowbirds came in chiefly in very compact flocks and were readily identified by their rapid wingbeat and small size. Most of the flocks however were a mixture of Starlings, Grackles, Cowbirds, Rusty Blackbirds and Redwings. The last mentioned gave their distinctive notes. After all had settled among the cedars and darkness approached, there continued a din of various bird notes from the several species. Hawks were active about the place in late afternoon, those identified being several each of the Red-tailed and the Cooper's, and Mr. Smith observed one Goshawk in the light grey plumage of an adult bird. These hawks probably catch an incoming bird at dusk and clean up any injured or sick birds the following day. A local resident told the writer that this area was a new roosting place and that a roost existed the previous year in a similar place several miles away. While the numbers seemed to fluctuate to some extent, the number present under good conditions, according to estimates made by Mr. Ganier, was not less than a million birds and possibly 25 percent above that figure. Of these, approximately 65 percent were Starlings, the balance being about equally divided between Bronzed Grackles, Robins and Cowbirds, together with at least a few hundred each of Rusty Blackbirds and Redwings. Specimens of each of the species mentioned were collected to be mounted for the Nashville Children's Museum.—EDWIN D. SCHREIBER, Nashville, Tenn.

FURTHER NOTES ON THE MARTHA BIRD ROOST.—During the course of visits to the roost on January 19, 26 and 30, the writer made the following additional observations. The area occupied consisted of approximately 55 acres of an old abandoned farm, covered, in most places thickly, with a growth of red cedars from 10 to 18 feet high. The birds occupied all portions of this area, even the cedars which stood by themselves outside of the thickets. Walking thru the place at night they could be seen overhead, motionless or fluttering away, depending upon visibility. They occupied the upper branches and very few were within reach. The ground beneath the trees was covered with as much as an inch of excrement and broken green leaves of the cedars and this condition existed thruout. The Grackles and Starlings usually overshot the roost on coming in and settled in the tops of deciduous trees some distance away. As darkness approached, they moved enmasse toward the cedars and after milling about, in reconnaissance for about five minutes, gradually settled noisily in the cedars. While thus milling about, the air in all directions was literally filled with birds and the sight was highly spectacular. The Robins indulged but little

in such preliminaries, repairing almost directly to the cedars upon their arrival. On one evening when a snow storm was in progress and on another when a steady light rain was falling, the number of birds present was greatly decreased, due presumably to birds from a great distance (perhaps 20 miles) being unable to reach the roost before dark. The concentration was of further interest in that it represents one of the very few times when Grackles have remained to winter in the Nashville area. Of about 25 of these birds which were shot and examined, all were Bronzed Grackles (*Quiscalus quiscula aeneus*), no Purples being found. Of many fall and winter roosts that have been seen by the writer, this was somewhat the largest.—ALBERT F. GANIER, Nashville, Tenn.

EVENING GROSBEAKS AT JOHNSON CITY.—Four birds of this species (*Hesperiphona v. vespertina*) appeared at Johnson City, on January 6, 1946, and are the first we have ever recorded here. They were observed at my home in the suburbs at about noon and were feeding in the treetops at that time. They lingered long in the branches of the trees, stretching their wings and enjoying a sun-bath. I have four large *liriodendrons*, the seed of which are a favorite food for the neighborhood Cardinals and these may likewise have been the drawing card for the Evening Grosbeaks.—BRUCE T. TYLER and ROBERT B. LYLE, Johnson City, Tenn.

NOVEMBER NOTES FROM REELFOOT LAKE.—The writer spent from Nov. 13 to 18, 1945, at Reelfoot, continuing observations that were described in THE MIGRANT for Dec. 1942 and under the same arrangements, by which he was permitted to row about the refuge areas without a gun. The ducks quickly perceived that "shooting" with a movie camera was an innocuous form of sport and readily swam or flew about within easy gun range, as though they realized that in their havens they were to be free from molestation. The gunners complained as usual about the havens, unwilling to agree with the Federal wardens that lack of such refuges would result in most of the birds leaving the lake entirely. The majority of the gunners however had good sport and among the ducks brought in was one which was strange to all of us. Examination of the color plates in a copy of Kortright's "Ducks . . . of North America" which I had brought along, revealed this stranger to be an American Scoter (*Oidemia americana*) in juvenile plumage. I understand that this is the first State record of this species which is quite rare inland. Our lodge-keeper, who had had long experience with ducks, called it a "sea coot" and said they (probably meaning any of the 3 species of Scoters) were occasionally shot on the Lake.

Of the many species of ducks seen, Mallards seemed to be the most abundant and Shovellers were also quite numerous. No geese of any species were seen but these birds prefer the nearby Mississippi river. Of the numerous herons, that might have been found earlier, only the Great Blues were to be seen and there were very few of them. Tree Swallows, which have been an interesting feature of former trips, were not observed during the week. The nest of the Bald Eagle, in which Dr. W. R. Spofford took pictures of the young last spring, had been nearly demolished by a summer storm but the birds were near and were probably about ready to begin reconstruction of their big nest.—CHAS. F. PICKERING, Clarksville, Tenn.

BALD EAGLE NOTES FROM REELFOOT LAKE.—On April 17, 1945, Dr. Charles F. Pickering and the writer visited the Bald Eagle's nest on the eastern border in Blue Basin. The nest is in the top of a live cypress tree and is about 90 feet above the water. It held 3 large young on May 1, 1944, but none could be seen as we rowed close to the nest nearly a year later. However, an old eagle flew around in evident concern, calling frequently. We found 2 large well-feathered young in the nest which soon submitted to Biological Survey bands provided by Mrs. Laskey. Several photographs were made upon the large flat-topped eyrie, although it was difficult to get far enough away from them to include both birds. Of considerable interest were the food remains in the nest, for besides a few Coot feathers, the conspicuous feature was a large number of small turtle shells, mostly those of the musk turtle and from 3 to 4 inches in length. The shells were unbroken, but the soft parts had been expertly removed. Mr. Ganier states that numbers of such turtles are caught in the fisherman's nets and drown and on being thrown out, float about until they are picked up by the eagles. While up in the nest, a strange croak or "*whoosk!*" was heard, and we looked up to see a Wood Ibis circling over us. This was a new bird for me, although it comes to the lake in numbers in the early fall.—WALTER R. SPOFFORD, Nashville, Tenn.

NOTE:—The Wood Ibis has not been recorded as nesting so far north as Tennessee and it is likely that this bird had overshot it's breeding ground on it's northbound migration.—Ed.

NOTES ON MOURNING DOVE NESTS: During the 1945 season, 10 nests of Mourning Doves were observed. Seven young matured (35 per cent of the number of eggs laid), 4 of them from the 6 nests at my home, and 3 from the 4 nests located in different areas.

Nests were placed from 3½ to 20 feet from the ground, in forks or on horizontal limbs of elm, silver maple (2), mulberry, Colorado blue spruce, and native cedar (3). One was located in the tin gutter at eaves of a one-story dwelling but, after several days of incubation, was washed out in a heavy rainstorm.* In one instance, a Wood Thrush nest was used as a foundation. The earliest nest, started March 18, was built upon the remnants of one used by Doves in two previous years. It was about 17 feet up, in a tall, slender cedar. Although this March nest was unsuccessful, it was re-occupied later, 2 young leaving on June 7 and 2 on Sept. 7.

The earliest fledging date was April 27 when 2 young made long flights of more than 200 feet from the blue spruce nest, 5½ feet up in this shrubby ornamental on a lawn.

Each year, some late Dove nests are found about Nashville during September but it is unusual to have young hatch as late as the 20th. About the last of August, a pair brought two fledglings to a mulberry tree at the front of a vacant lot (100 by 125 ft.) in a closely built residence section of the city. There the young were fed for a few days and the new nest was built 12 feet up in a fork above a well-traveled public walk. When observed on Sept. 16, the 2 eggs were being incubated but on the 18th, both adults disappeared. Neither bird was seen during a careful watch all day. The following morning, the cold eggs were brought indoors. One was sterile, but at 3 P.M., the other was pipped. On Sept. 20, at

8:30 A. M., the tiny orphan hatched; it was an attractive and appealing little creature, weighing 5.6 grams. It was kept warm with soft wool and silk wrappings and an electric heating pad. It was fed homogenized milk, slightly heated, with pulverized cereals, and responded well by taking the liquid from a spoon when offered every two hours. A very soft "peep", barely audible, seemed to be a food note. It lived exactly 48 hours. My improvised "incubator" and feeding formula did not compensate for the loss of parental brooding and "pigeon milk" feedings.—AMELIA R. LASKEY, Nashville.

*Note.—The nesting of a dove in a gutter does not indicate that these birds have any degree of good judgement. In an earlier issue of the THE MIGRANT (1936, June, 7:33) Mrs. Eagle wrote of one which built in her gutter and three successive nests were washed out by rains. Their fourth attempt was accompanied by a spell of dry weather and the brood was successfully fledged.—Ed.

BROWN THRASHERS WINTERING NEAR KNOXVILLE.—Since this species (*Toxostoma r. rufum*) is not generally regarded as a regular winter resident in East Tennessee, the following local records have been compiled to help determine its status at that season. They have been gleaned from THE MIGRANT, the records of the Knoxville T. O. S. chapter, and from the writer's notes. They cover the period from October 1934 to March 1945.

1935-36; George Foster reported (MIGRANT, 7:24) the Thrasher to be wintering in Fountain City and made the comment that it was the first occurrence there in several years.—1938; Brockway Crouch observed one frequently from January 10 through the month of February at his home on Brooks Road.—1940; In January, Frelan Goddard found a Thrasher regularly in his neighborhood on Highland Drive, Fountain City. The bird disappeared the last of the month but this one or another appeared throughout February at Bill Yambert's feeding station on Templeton Avenue, also in Fountain City. The two locations are more than a mile apart.—1944; Mrs. Walker located a Thrasher on January 25 in a vacant lot at Gilbert Lane and East Peachtree Street where the bird remained for a few days and was seen no more that season.—1944-45; At the same location mentioned above, a lone Thrasher was observed on December 13, January 17 and January 27. Although Mrs. Walker and the writer ran two feeding stations within 500 feet of the lot, and ideal Thrasher habitat extended to within 75 to 100 feet of our feeding stations, we never observed the Thrasher around the house until March 17 when a pair of them arrived. We considered these birds as migrants for they nested in the thicket near the garage.

The Knoxville localities, in which the Brown Thrashers were discovered, are situated in the southeastern, eastern and northern suburbs of the city. This would indicate they have not confined themselves to a special area and in all probability are more common in winter than our present records indicate.—W. M. WALKER, Park Circle, Nashville 5, Tenn.

THE MIGRANT

A QUARTERLY JOURNAL DEVOTED TO THE STUDY OF TENNESSEE BIRDS
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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

NOTES, HERE AND THERE

T. O. S. MEETINGS.—The Nashville Chapter meets the 2nd and 4th Monday of each month, at 7:30 p.m., at Peabody College, in the west parlor of the Social-Religious Bldg.—The Memphis Chapter meets the 2nd Wednesday of each month, at 8 p.m. in the Memphis (Pink Palace) Museum of Natural History.—The Elizabethton Chapter meets the 1st and 3rd Friday of each month, at the homes of it's members and week-end field trips are scheduled in between.—Meeting schedules of other chapters have not come to hand. Each chapter will hold a Spring Field Day, late in April or in early May at some attractive place within motoring distance.

December was characterized by steady cold weather and the mean temperature at Nashville was 34.4 degrees, which compares with a normal of 41.0. It was the third coldest December in 75 years. November and January temperatures were close to normal, being 41.2 and 39.6 respectively.

The members of our Elizabethton Chapter did an outstanding job in following up and reporting their Evening Grosbeak finds, especially during January. We hope to give their final report in the March issue.

The origin of the name of the Evening Grosbeak is somewhat obscure and there is but little clue or comment in the literature. From Coues "Key to North American Birds," we learn that the name came from the fancied resemblance of it's yellowish colors to the yellow and gold of an evening sky at sunset. It was first described by W. Cooper in 1825.

Captain Ben B. Coffey, of Memphis, after three years service in the army air corps and for the last year stationed in India, has returned and is now picking up the threads of civilian life at his former home. There's much unfinished bird business on hand, reports Ben.

Dues for 1946 are payable as of Jan. 1st; your attention to this will save our Treasurer the time and expense of billing you. At this time also, we suggest that you nominate interested friends for T. O. S. membership.

This issue of THE MIGRANT goes to press as of Jan. 31, 1946, having been held over for inclusion of the mid-winter census lists and other particularly interesting happenings in the bird world during January.

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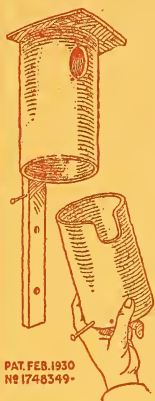
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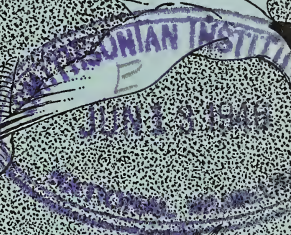
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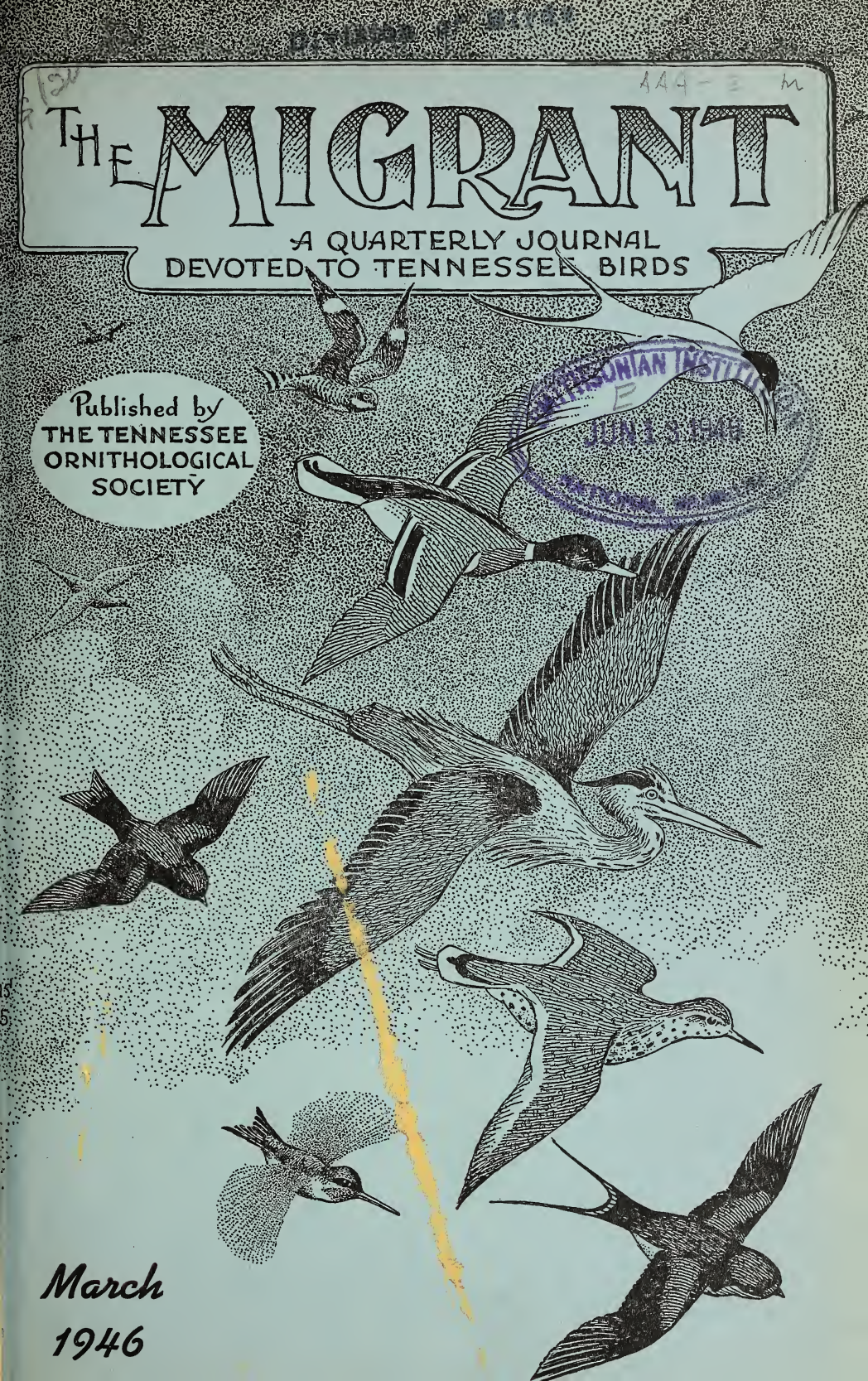
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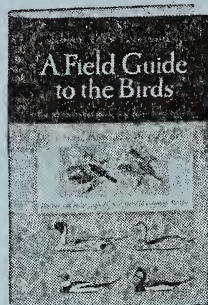
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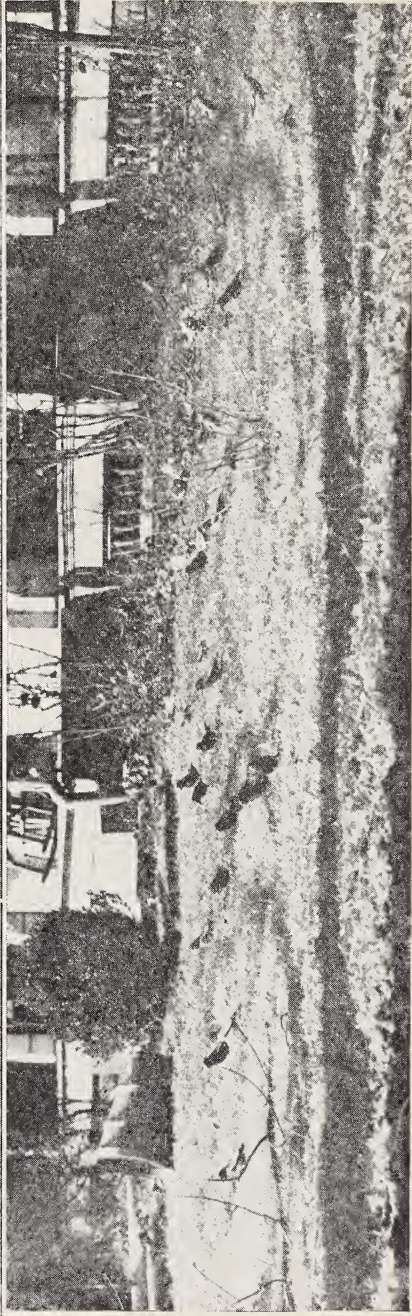
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EVENING GROSEBEAKS WINTERING IN ELIZABETHTON, TENN. Photos by Behrend.

THE MIGRANT

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VOL. 17

MARCH, 1946

NO. 1

WINTERING OF THE EVENING GROSBEAK IN NORTHEAST TENNESSEE

BY FRED W. BEHREND

The initially sporadic records of observation of the Eastern Evening Grosbeak (*Hesperiphona vespertina vespertina*) in Northeast Tennessee following its unexpected appearance in this region the past late fall and early winter, as reported in the December issue of THE MIGRANT, left open to conjecture the question of whether, or how long, these rare birds would stay. When repeat observations in short order by members of the Elizabethton Chapter of T. O. S. pointed to the possibility of an extended presence of the species in Elizabethton, a systematic daily check on the Evening Grosbeak was initiated by the writer early in February. This check, still in progress as this article is written inasmuch as not all of the birds have as yet departed, brought forth interesting results, the most surprising of which was the fact that the Evening Grosbeak made the Elizabethton locality its winter feeding ground, and that its stay lasted much longer than most optimistically could have been anticipated. On a great majority of days the check was conducted twice, for a period of from fifteen minutes to half an hour, in the early morning and approximately half an hour at noontime. Circumstances did not permit spending time on regular checks in the late afternoon or evening hours. However, whenever there was an opportunity to do so, the Evening Grosbeaks were also looked for at that time of the day. The daily checks concentrated, via a circuitous route, on three principal areas within the city of Elizabethton which were frequented by them as in the course of observation became progressively known. These three areas are within a radius of approximately six-tenths of a mile. They lack, however, direct connection with each other in so far as the range of presence or observation of the Evening Grosbeaks is concerned. All of these areas, close to the heart of the City, are characteristically residential sections with an abundance of large shade trees, predominantly Maple. For the purpose of this study they are designated as South Riverside Drive area, North Riverside Drive area (both extending along Doe River which, from south to north, flows through the eastern part of Elizabethton), and the First Baptist Church—Sunset Hill area approximately one half mile to the west. Irregularly, some of the Grosbeaks appeared in parts of the City outside of, but not very distant from, these three main areas.

The Evening Grosbeaks were first observed in Elizabethton on South Riverside Drive, and it was particularly for this area that in the early stages of their stay they had a decided liking. Not only did remnants of the preceding season's seed crop of stately maple trees here prevalent, accumulated on the ground or in roof gutters, offer sufficient food to subsist

on, but spacious lawns invited to feed on in large numbers, for, as proven by observation in this locality, the Evening Grosbeak is a species of strongly gregarious habit. It stays together in flocks and rarely is a stray individual to be seen. In addition to the aforementioned favorable conditions, the closeness of Doe River—its banks lined with a variety of trees such as maple, elm, locust, catawba, sycamore, cedar, cottonwood, willow, etc.—likely was a factor contributing to the preference of the species for this area. Here they could in the crisp air of an early morning be seen feeding on lawns, sometimes scores in number; here they could in the warm mid-day sunshine of a late winter day be found inert or in a state of languor, perched on the branches of trees on the River bank; here they could occasionally be seen descending from limbs or branches of trees extending low above the water's surface to the edge of flat rocks near the river bank to splash the clear water of Doe on their wings. The budding of the maple trees and subsequent shedding of the bud scales as winter was on the way out, provided a plentiful supply of food for the Evening Grosbeaks who seemed to be very fond of this vegetal matter. One of the most delightful pleasures experienced by the writer on a number of occasions was watching them from the car window, with just a few yards intervening, sail gracefully, wings aflutter, out of trees to the ground, singly, in pairs, threes or fours, at times nearly a hundred in number. If, as it frequently happened, the noise of a passing automobile or some other cause interrupted their feeding, they arose with a whirl into the air to alight in the nearest tree, only to drop to the ground again to continue feeding until the next approaching car scared them anew. The Evening Grosbeak is a patient and persistent bird as the writer has had occasion to observe when within a few minutes this performance was repeated perhaps half a dozen times.

Locating the Grosbeaks, once their regular whereabouts are known, is an easy matter by practicing in reverse the slogan "Stop, Look and Listen." As one approaches the locality, their call note, a snappy, metallic sounding "Kim" or "Crimp," not dissimilar to the chirp of the English Sparrow but louder, audible at a distance of some 150 or more feet, reveals their presence. Under given conditions they can be readily approached to within some 25 feet or so without showing signs of being disturbed, provided the observer is careful to refrain from sudden movement. If on the ground, it will continue feeding busily. If in a tree, it may eye the observer but not take flight. Although their number in any one place and on any one day varied, the fact was soon established that the flock wintering in Elizabethton was of very considerable size. As many as 80 to 90 birds were counted on various occasions. The largest number observed, not only on one but on several days, amounted to between 110 and 120. Care was taken to avoid duplication and exaggeration in the count of the birds as they moved on the ground or in trees, and the figures established over the relatively long period of observation are to an overwhelming degree based on actual count rather than estimation. In a good many instances the count was repeated, and several times if possible, for verification of the number first arrived at. Occasional checks were made on the ratio of the sexes, and the resulting counts invariably showed a proportion of one male to three females. As spring approached, the number of Evening Grosbeaks began to diminish,

not very perceptibly at first, but gradually. The counts of late March still showed total numbers of about 65. By and by redbud, dogwood, catawba and locust, in addition to fruit trees and shrubs, burst into bloom; yet, surprisingly, the Grosbeaks stayed on, much longer than anticipated. Accurate all-inclusive counts became increasingly difficult as detection of the birds in trees was no longer an easy matter since their plumage blended so perfectly with the fresh green foliage. It might be mentioned in this connection that no change in their plumage from winter to spring was perceptible.

As spring advanced, the feeding habits of the Evening Grosbeak underwent, by necessity, a change. No longer did the bud scales of maple trees cover the ground as they had been cleaned up methodically in one area after another, and therefore less frequently were the birds seen on the ground. They now fed on the fresh seed pods of the maple trees, and most of their time was spent in the trees. Their food had to be shared with unusually large numbers of Goldfinches and Purple Finches that had drifted in on migration toward the end of March, and the writer observed the curious fact that the Grosbeaks deserted the North Riverside Drive area soon after the Finches had taken possession of the elm trees on whose buds the Grosbeaks had been feeding. Doubtless the supply of food had a great deal to do with their movement within the different areas. Thus, when they had thoroughly worked over the South Riverside Drive area, their leaving there coincided with their regular appearance in the up to then little frequented North Riverside Drive area and a corresponding increase in number in the First Baptist Church—Sunset Hill area. Upon termination of their presence in the North Riverside Drive area a number of them reappeared in the South Riverside Drive area for a brief period. Simultaneously with the abandonment of the latter two areas, they were now seen daily and exclusively in the First Baptist Church—Sunset Hill area. The reduction in total number at this time was indicated through departure of part of the flock. As the supply of food, the seed pods of maple trees, grew smaller and smaller, the number of the Grosbeaks declined, and there was a noticeable shift in the feeding area. From one end of a block to another and around the block, the maple trees furnished sustenance, and, if the birds could not be seen in the dense foliage, aside from their call note, the crunching noise of their breaking open the seed pods gave a clue of their presence.

With respect to the most often referred to favorite food of the Evening Grosbeak, the seed of the box elder tree, the latter was non-existent in this community from the time the Grosbeaks were seen here. There are comparatively few trees of this kind in this region. However, there is a fair number of ash trees in some parts. On the basis of observation here it is believed that the Evening Grosbeak is not fastidious in the matter of food, at least by no means so much so as reputed by the literature. For the sake or satisfaction of curiosity, attention was paid to the Grosbeak's preferences with respect to this, and the writer observed them feeding on the seeds of mimosa and locust trees, on the hulls embedding the blossoms of the catawba tree and on the buds or bud scales of elm trees, all in addition to their most abundant food in the locality, the bud scales and seeds of the maple tree.

Unfortunately, this study leaves two rather interesting questions unsolved; one of which concerns knowledge as to whence the Evening Grosbeaks came here and where they might be going. Neither the writer, nor any other member of the local T. O. S. chapter, was prepared for banding and valuable information that might otherwise have been acquired will thus remain unavailable. The second question is that of their roosting place or places while here. With more time on hand than there was it might perhaps have been possible to develop this. None of the writer's infrequent late-afternoon checks proved them to be in places where they had been seen in the morning and at noon. With one exception, none of the persons who had ever observed them in the community could recall having seen them at a time later in the day than in the middle of the afternoon. In this one exceptional case a resident of North Riverside Drive at whose home the Grosbeaks were seen regularly for some time, stated the Evening Grosbeaks had been singing and roosted in the evergreens (Hemlocks) in the back of their yard on the bank of Doe River at dusk. The writer's check of the place, on some of the immediately following late afternoons, was unsuccessful. The theory is, however, advanced by him that the Evening Grosbeaks might have been roosting on the side of Lynn Mountain not very distant from the Riverside Drive area in as fine a stand of cedars as can be found anywhere in this region. A few times during their stay here they were seen by him headed in that direction and finally lost from sight. If and when they should return to this locality next fall or winter, this will be the subject of a special study.

MILLIGAN COLLEGE, CARTER COUNTY, TENN. April 30, 1946.

A MIGRATION FLIGHT OF NIGHTHAWKS

BY ROBERT J. DUNBAR

A large flight of Nighthawks was observed by the writer while attending the National Muzzle Loading Rifle Association Matches, held at Friendship, Indiana, September 1, 2 and 3, 1945. Friendship, a small town of about 200 people, nestles between the hills in a narrow valley in the southeastern part of that State. The valley runs nearly east and west and varies in width from $\frac{1}{4}$ to $\frac{1}{2}$ mile. Most of the valley is under cultivation, the exception being the townsite, the wooded banks of a meandering stream and the steeper slopes of boundary hills.

On the morning of September 1 there was a heavy rainfall. By one o'clock the weather cleared, leaving the afternoon rather hot. Near sundown the insect life in the valley became noticeably active. While sitting in the doorway of my car cleaning a hog rifle a movement overhead caught my eye. To my surprise I saw a Nighthawk dip sharply to within 20 feet of the ground not more than 50 feet away. Never before had I been so close to a flying Nighthawk, and a second later I got the thrill of a lifetime: the sky was filled with birds! From the distinct markings on their pointed wings they were at once recognized as Nighthawks. They were everywhere, up and down and across the valley. I checked the time—it was 6:32 P.M., by Daylight Saving time.

The birds were flying in an orderly, deployed at random formation, away from the setting sun. Each seemed to have been allotted a certain amount

of air space (approximately 50 feet square by 150 feet long) in which to maneuver. Although the flight as a whole was steady, the individuals would veer a few feet to the right or left, or up or down, to take an insect. Occasionally one would make a complete turn to overtake an insect, after which the Nighthawk would quickly return to its proper place in the extended formation. They were obviously in migration, but were feeding as they went. Not once did I notice two come closer than 15 or 20 feet of each other or separate more than 150 feet. As far as I could see, the cross section of the flight ranged in height from approximately 50 to 400 feet above the ground and extended across the valley from rim to rim.

How long the flight had been in progress before I first noticed it I do not know, but I doubt if it could have been more than a few minutes. At any rate it was well under way, for it continued at approximately the same density for the next thirty minutes, after which it tapered off to a few stragglers, and at the end of another fifteen minutes it was all over. The insects too seemed to have disappeared.

During the first half hour of my observation I made repeated estimates of the number of birds that passed through an imaginary plane at right angles to the flight. A conservative estimate was that at least 50 Nighthawks were passing each second, 90,000 in 30 minutes and another 20,000 during the 15 minute taper off. This gives a total of 110,000 birds to say nothing of those out of eye range on either side of the valley or those that departed before the flight was first noticed. I watched the next evening and the next, but the occurrence was not repeated nor did I see a single Nighthawk in the sky.

106 GLENDALE LANE, OAKRIDGE, TENN.

EDITOR'S NOTE.—Reference to a similar migration, west of Pikeville, in Bledsoe County, Tennessee, is chronicled in *THE MIGRANT* for September, 1933, 4:38, as follows: "Late in the afternoon of August 27, 1933, an unusually large migration of Nighthawks was observed. Over almost every clearing, a flock of these birds was seen, each numbering from twenty to more than a hundred. There must have been many thousands of them passing over this section of the Cumberland Plateau, for as we drove southward, we continued to see flocks of them during the half hour before sundown. Mr. Frank E. Morse, of Boston, Mass., passing through Crossville, about 20 miles northeast and at the same hour, reported them also in large numbers at that point."

A JUNE FORAY INTO THE CAROLINA MOUNTAINS

BY LEE R. HERNDON

On June 16 and 17, 1945, Messrs. Fred Behrend, J. C. Browning, E. Lafferty, Lee R. Herndon, Jr., and the writer, members of the Elizabethton Chapter of the T. O. S., and F. W. Pearson of Kingsport, made a bird-listing trip to Grandfather mountain, near Linnville, North Carolina. This mountain is one of the Blue Ridge chain and is approximately twelve miles east of the Tennessee line. We drove up in one car, following the Doe River route and stopped for observations along the way.

Of particular interest to us was the finding of the House Wren, it being heard singing at four different locations. At this date, these birds were doubtless on their breeding grounds. The first was at a farm house across the road from the Wayland school on the State Line road; the second was near the intersection of the Shell Creek road and the State Line road, both points being in Tennessee. The other two were in Elk Park, N. C., one as we entered and one as we left town. The latter two we did not hear on the following day as it was raining when we passed, but the other two were heard singing in approximately the same locations as the day before.

Three Red-tailed Hawks were observed in flight on the way up but no other hawks were observed on the mountain or on the return trip.

Upon our arrival, we pitched our tents several hundred feet below the summit of Grandfather mountain, which rises to an altitude of 5,964 feet above sea level, and observed the birds during the late afternoon. The most prominent of the songs at this time of day were those of the Veery, Indigo Bunting, Carolina Junco, and the Chestnut-sided Warbler. Long after the other birds had ceased their singing, the song of the Whip-poor-will was heard in the distance.

The morning chorus started off with the Robins, at the first sign of dawn, soon to be followed by the Field Sparrow, Catbird, Carolina Junco, and Veery. During breakfast, several species came within close range. These included the Rose-breasted Grosbeak, Black-and-white Warbler, Chestnut-sided Warbler, Chipping Sparrow, White-breasted Nuthatch, Least Flycatcher, Brown Thrasher, Towhee and Goldfinch.

As we climbed from here on to the summit of Grandfather mountain, the song of the Wood Thrush died out at about the lower limit of the balsam and fir trees, while at approximately the same elevation, the song of the Winter Wren was heard. At least two Winter Wrens were observed; one while singing at close range and two or three others heard singing while we were on top of the highest peak, except one, at an elevation of approximately 5,800 feet.

Birds listed as we traveled along the crest of Grandfather mountain were: Veery, Chestnut-sided Warbler, Towhee, Scarlet Tanager, Carolina Junco, Cairn's Warbler, Canada Warbler, Ruby-throated Hummingbird; Turkey Vulture, Brown Creeper, Chimney Swift and Winter Wren.

The warblers which we observed, listed in order of their abundance, were: Chestnut-sided 25, Cairn's 12, and the Black-and-white 1. Species of which only one individual was seen were Red-breasted Nuthatch, Brown Creeper, Hairy Woodpecker, Chickadee and Black-and-white Warbler.

On the return trip westward, as we stopped to listen for the House Wren near the Wayland school, a pair of Barn Swallows showed extreme excitement. Investigation revealed that we had parked the car within ten feet of a fledgling Barn Swallow, perched on the wire fence by the side of the road. We had looked for nests of these swallows under the eaves of a nearby barn the day before but none was found. This observation was of considerable interest because, with the exception of those found in Shady Valley (MIGRANT, 1934, 5:22), we have no other nesting records of the Barn Swallow in our territory.

1533 BURGIE PLACE, ELIZABETHTON, TENN.

A NATURAL HISTORY MUSEUM FOR NASHVILLE

BY HARRY S. VAUGHN

A comprehensive museum of natural history has for many years been the goal of a group of amateur naturalists living at Nashville and the surrounding area. During the past year, the movement for such an institution took on fresh impetus and, under the title of the Nashville Children's Museum, gained the financial support necessary to launch the project upon a firm basis. In order that the work might go forward under the direction of those most interested in its possibilities, its financial support was drawn chiefly from contributions by public spirited citizens. To provide for its growth and to manage its funds, a Nashville Children's Museum Association was formed and of this, Mr. Vernon Sharp, Jr., is serving as its first and highly efficient president.

The new museum is housed in a pretentious old stone building in South Nashville. In itself, the building is more or less of a museum piece, having been erected nearly a hundred years ago (1853) as the main building of the old University of Nashville. After many years of disrepair, including threats of demolition, it was turned over to the museum trustees by the mayor of Nashville for a minimum fee. The city school board, seeing the possibilities for its educational work, arranged for the heating and for other assistance and a carefully planned program of rehabilitation in due time restored the entire first floor to a most attractive condition for the purpose intended. Space does not permit mention of the many special contributions that were made toward furnishings and construction.

The underlying purpose of the museum is to enlist and develop the natural interest in nature which is ever present in the minds of boys and girls and to thus guide them toward a development of such interests, as opposed to less wholesome interests that might be inimicable to their future welfare. In addition to the natural history aspects, the rich early history of Tennessee, both aboriginal and in early settlement, will be treated, and social service is likewise to be a part of the institution's program.

Although open only a short time, a very representative collection of exhibits has been secured and installed. While most of these have been given outright, others have been loaned and the probabilities are that many loaned exhibits will eventually be donated.

Upon entering the building, one sees to the right and to the left, two large wall niches, each about four by nine feet, in which against painted backgrounds of Reelfoot Lake, are displayed examples of its colorful bird-life. These include recently collected specimens of the American Egret, Great Blue (Ward's) Heron, Water Turkey and Red-winged Blackbirds. On entering the hallway, to the extreme left is the large auditorium, finished with acousticed ceilings, theatre seating, and projection equipment for both sound and silent motion pictures.

The main exhibit hall, at the center of the building, is supplied with glass cases in which may be found varied exhibits, including the wild birds and wild quadrupeds of Tennessee. One of the bird cases contains a complete collection of the hawks and owls while another shows representative nests and eggs, including mounted specimens of their feathered owners. Some

of the mammals are shown in habitat groups which depict, in their forest surroundings, such well known ones as the raccoon, opossum, groundhog, skunk, the foxes and numerous others.

One wall case shows a diagram entitled "The Tree of Life," the limbs and branches of which show the relationship of all living creatures, from the lowest marine forms on up the scale to mankind. Other cases show native wild flowers reproduced in wax and plastics in their natural environment; an exhibit of colorful sea shells and other marine life; a case of Tennessee fossils and minerals; and another, containing stone arrows, spears, pots and other aboriginal articles dug from Tennessee Indian mounds. Large illuminated niches flanking the doorway here, exhibit the woodpeckers against a painted background of the Radnor Lake hills; the other showing the squirrels with background portraying the Harpeth hills. Execution of the four niches referred to, as well as the preparation of numerous birds and mammals, is the work of Mr. J. D. Smith, preparator.

The large room at the right end of the central hallway is designated a hall of mammals and includes the Dan Rankin collection of heads and horns of big game, from Africa and from Indo-China. Here too are the larger mammals, secured through the Hornaday Foundation, from the American Museum of Natural History. These include bear, buffalo, cougar, lynx, wolves, otter, beaver, members of the deer family, etc.

An exhibit of especial interest is that housed in the "live room" in the right wing of the building. Here may be found many small live creatures that have been brought in or otherwise acquired and these are kept in natural conditions for study and observation by nature students. The specimens are chiefly snakes, turtles, frogs, alligators, etc., and the smaller mammals, many of which are tame enough to permit handling. Among those which may not be handled, however, are a rattlesnake, a copperhead and a Gila monster.

A hall of Tennessee history, to feature pioneer life among the State's early settlers, is in course of development and occupies a front room. A number of other collections are on hand but not as yet fully displayed for lack of space. These include the fine Truman Ward collection of 7,000 butterflies and moths as well as the writer's large collection of the nests and eggs of North American birds. Displayed in part but not as yet adequately, are the beautifully executed miniature carvings by Dr. J. W. Matthews, of ivory, bone and plastics, also a world-wide collection of figurines carved from wood and loaned by Mr. Wallace Clark, now in the armed services on Pacific duty.

Aside from the exhibits, there is conducted a series of nature education activities, including Saturday hikes, nature-trail work and clubs for the young people pertaining to their particular interests and hobbies. This phase of the museum's work was begun under the direction of Mrs. Sylvia Brockner, lately retired, and is now being carried on by Miss Emily Colvette. The attendance has been beyond expectations; for example, more than 10,000 came through its doors during the first two months after its formal opening on October 31, 1945, and this rate of attendance is now being exceeded.

Space does not permit mention of the many people who have given liberally of their time and effort to bring the project into being but readers of this journal will be interested in the fact that some of the most active workers in its behalf are members of the Nashville Chapter of the T. O. S., including President Sharp and Messrs. W. R. Spofford, A. F. Ganier, G. R. Mayfield, Donald Maynard and others*. Especial mention should be made of the assistance of Mr. John Ripley Forbes, director of the Hornaday Foundation, who has actively assisted in many ways since the inception of the project.

NASHVILLE CHILDREN'S MUSEUM, 724 2nd Ave., So., Nashville, Tenn.

EDITOR'S NOTE.—While Dr. Vaughn has modestly refrained from mentioning his own part in creating the Museum, it should be recorded that he has been its first Director and deserves great credit, not only for the rehabilitation of the old building but of actively assisting in the Museum's program of development.

BIRDS FROM A CONVALESCENT'S WINDOW

By ALBERT LEIGH POWELL, JR.

It seems that sometimes the only way one can appreciate his fortunes is to have them taken away; this bit of observation can also be applied to birds, the Wilson's Warbler in particular. For years I had been searching for this sprightly little transient but it was only when I was no longer able to tramp my beloved woodlands that I found one.

The summer of 1943 was exceptionally warm and the month of July broiling in the high nineties; it was this particular time that I picked to come down with a pulmonary hemorrhage. My doctor, knowing of my fondness for the fields and woods, reluctantly gave me the discouraging news that there would be no more bird study for a long, long time. No more birds?; well, no more ten-mile hikes perhaps, but as far as the birds were concerned the ensuing months brought me bird observations that many of our most active pedestrians most likely would have missed.

I was fortunate in that there is a patch of woods immediately to the rear of my house and only about seventy-five feet from the windows of my rear room. (Though these woods are a part of Parkway, which completely encircles Memphis, I have always claimed them as my very own.) My side yard contains two sweet gums and a good sized sycamore. Several large and wildly growing privet hedges, accompanied by brush and a few old plums at the far end, complete the picture. My bed was so arranged that I could look out of the side and back windows with ease and, with the aid of my glass, I was able to see a large part of the woods. Of course my bird bath was situated in the privet and was only a few feet from my bedside.

Almost immediately the birds rallied to my bedside, visited me as it were, to let me know how sorry they were that I could not be afield with them. One would think that being confined to bed for several months on a stretch would be very monotonous and discouraging but one would be surprised at the rapid rate that time passed and the many things that one could find to do, especially if he was interested in birds. My bird bath

became a stage and there was constant action going on as the hot weather made it a Mecca for all of the feathered folk in the neighborhood. I saw birds fight among themselves for the bath and fight for the protection of the bath; there are several cats that can testify to that. The first day that I was able to take an active interest in what my feathered well wishers were doing, I saw a pair of Cardinals, several Brown Thrashers, three or four Wood Thrushes, and many more of the common species. The actors on my little stage were well billed and costumed as well as roled in parts depicting both comedy and tragedy. I saw young birds trying to take a bath for the first time, which gave me several laughs. A beautiful Persian cat tried to jump into the bath and the whole thing toppled over on him; presumably the cat is still running. I also saw a Robin flutter to the bath and remain still for an hour or so, just sitting in the water and making no effort to bathe but vainly trying to drink. The bird died at the base of the bath where it had fallen. It was brought to me but I was unable to find the cause of death. The early mornings brought the Wood Thrush with his wild-wood song, a song that I think sounds like a lovely Swiss yodle. The summer wore on with intense heat but it brought a fabulous list of birds that came daily to refresh themselves and to peek in my window seemingly to say "Hello"!

As the season changed to autumn, I anxiously awaited the migrants and they did not neglect me either as I saw numerous warblers and other transients in a constant stream. The list reads almost like a record of a hike afield—Hooded Warbler, Black-throated Green, several Maryland Yellowthroats (replacing the ones that had been here all summer), and of course

The morning of September 17, 1943, brought the one thing that I wanted to see the most. I was searching the woods with my glass and then turned my attention to the bath. I saw a flash of gold in the hedge and down dropped two male Wilson's Warblers in full plumage. There those birds were, a scant ten feet from my bed. I recalled the many times I had been afield and every one locally had found the Wilson's but me. I had tramped miles looking for the little yellow "Black-caps" and now they were bathing and spashing around as if they owned the place. I could not but think that the birds were flocking to me to compensate my illness. The Wilson's were leisurely in their toilet and preened themselves for many minutes while I looked on open mouthed. They hung around all day and then disappeared into the night. Little did those mites know how much I appreciated their animated visit.

As the trees turned color and dropped their foliage, the sparrows arrived and the winter birds replaced their summer relatives. I then recorded the Hermit Thrush, Myrtle Warblers, many Whitethroats, Juncos, Towhees, Song Sparrows and all of the woodpeckers including the Red-bellied and the Sapsucker but excluding the Pileated. The winter troupe played as well as the more colorful summer company and the White-throat's aria was sung with even more vigor than the summer songs.

Time and fortune played its part and I was allowed to sit up a little each day and on one of those days I was sitting in the kitchen having lunch when a small bird slammed itself against the window. I saw the

bird drop to some vines below the window so I stepped onto the back porch to have a look. I was greatly surprised to find a House Wren in a dazed condition clinging to a vine. In a short time it recovered and moved on. Why it flew into the window is a mystery.

The winter gave way to spring and to the excitement of another migration. The privet bloomed, the plum blossomed, and the woods sported a tired old dogwood and several redbuds, all of which were the promise of a green and fruitful summer. And fruitful indeed was the summer, for the colorful Painted Bunting and his demure mate arrived one May morning to tell me that he had chosen my vicinity for his home. What a pleasure to have him visit the bath and to hear him sing from a telephone wire. His arrival also brought the Indigo Bunting and of course the Maryland Yellowthroat. The woods resounded with the Hooded Warbler's song and the Redstart stayed around for a brief few days; the Wood Thrush returned and gladdened the hearts of all who would listen to his cheerful lay. This summer, 1944, found me walking around the yard and even a few trips to the little woods became possible, to watch the nesting of the Wood Thrush. The Cardinals allowed me to investigate their nest in the privet hedge and the Catbirds also permitted my prying into their private life. Mourning Doves and a pair of Robins nested in the gum tree but I had to be content with knowing less of their affairs.

In glancing through my "bird log" I came upon this coincidental fact, that on the 7th, 8th, and 9th of September, 1945—just one year later—my bird bath was again visited by Wilson's Warblers. This time there were two males and two females. Recorded also in the "log" was the fact that my yard had been visited by all of the Thrushes except the Veery, and I found him in the little woods at a later date. Space does not permit the actual list of birds that came to see me but suffice it to say that it was large and comprehensive.

The goodness of Providence and expert medical care finally put me in "birding" condition again, but no trip afield will give me the same pleasure as those feathered friends that visited my back room with their contributions of cheer and color.

1429 SOMERSET, MEMPHIS, TENN.

THE ROUND TABLE

TERMINATION OF TWO WINTER BIRD ROOSTS.—In the last issue of *THE MIGRANT*, two large winter bird roosts were described; one at Martha, 21 miles northeast of Nashville, and the other within the city limits of Nashville. The writer and others made subsequent trips to the first mentioned on January 31, February 3, 9, 16, 23, March 6 and 15, and to the latter on February 12, 18, March 17 and 20, for the purpose of noting changes in their usage.

The birds at the Martha roost were predominantly Starlings in late January and early February. On February 9, with a steady rain falling, I estimated that the Bronzed Grackles had begun to slightly exceed the Starlings in numbers. By February 16 the Grackles had increased to where they now numbered 70 to 75 percent of the birds present and the Starling population

was on the decrease. A visit on February 23, was of particular interest in that numerous small flocks of Redwings were very much in evidence and from 10,000 to 15,000 would be a conservative estimate of their number. The Cowbirds had become more numerous too but were not present in large numbers. The Robin population had now dwindled and the birds were arriving only as singles or in small flocks of from 15 to 25.

The next trip, March 6, found the roost greatly depleted in numbers. Now, perhaps only 100,000 birds came in and their flight from the deciduous trees in which they gathered to the cedars in which they roosted, was accomplished in less than five minutes. Notes and songs emanating from the evergreens told that the Cardinal, Carolina Wren, White-throated Sparrow, and the Field Sparrow were now using the roost in numbers. When we started on our visit of March 15, we anticipated that only a few birds would be there because the Starlings and Grackles had begun to roost throughout the city and country for the past few days. The 900 to 1,000 birds arriving were about equally represented by the Starling and Grackle, with perhaps 100 Robins also present. No Redwings, Cowbirds, or Rusty Blackbirds were observed on this date.

Others have made mention of the thick layer of excrement and broken leaves of the cedars that covered the ground beneath the roost trees. One day, i. e. February 3, after we had covered the territory very thoroughly, I selected two spots, one where the above mentioned deposit was of average condition and the second where there was a very heavy deposit. From an area one foot square at each place, I counted 109 and 217 seed pits respectively. These seed were those of the hackberry and perhaps other stone-like pits. A good many dead birds were found beneath the roost at various times and while these were examined for bands, none were found.

The roost in Nashville exhibited a radical species and population change after the peak period of January 15 to 20. At that time it was used almost exclusively by Robins but they decreased rapidly and by February 12, seventy-five percent of the immense number of birds present had become Starlings. Very few Redwings or Rusty Blackbirds were seen on this visit. An influx of Cowbirds occurred between February 12 and 18, yet on the latter date the total number of birds in the roost had dwindled considerably.

Since the trip to Martha on March 15 showed that roost to be practically abandoned, we visited the roost at Nashville on the 17th and found that it also had waned greatly, there being only a few thousand birds. This flock consisted of Starlings, Robins, Grackles, Redwings and Cowbirds, but only the first mentioned were in any numbers. A final visit on March 27, found this roost to have been abandoned.—W. M. WALKER, 107 N. Park Circle, Nashville.

A LONG-EARED OWL NEAR NASHVILLE.—On a visit to the great "blackbird" roost, 21 miles E-N-E of Nashville, a search for this locally rare species (*Asio wilsonianus*) was made a special objective on February 3 and we were fortunate in locating and collecting a specimen. The roost referred to and described in last issue, covers a cedar woods of approximately 55 acres. The evergreens, offering an excellent hiding place and the presence of countless small birds at night, combined to make the place seem a highly favorable location for finding this nocturnal predator. A group

of three of our party of five, Robert Sollman, John B. Smith and the writer, spent the morning searching the cedars and at about eleven, the first mentioned observer flushed the owl when at a distance of about 20 feet. It had been perched on an elm limb 10 feet above the ground, where large cedars grew closely all about. The bird flew 30 feet and alit on the limb of a cedar. Of the two remaining members of the group, Mr. Smith having the better view, collected the specimen. It is entirely possible that other individuals of this species were present but were not discovered.

Upon dissection, following preparation of the skin by the writer for his collection, the bird was found to be in lean condition although the stomach was well filled with a mass of feathers which would have been regurgitated later in the form of a pellet. These feathers, when washed out and dried, were readily identified as those of a Starling. There were only a few bits of bone among them, showing that the skeleton had been carefully picked of its flesh. On the ground under the roost trees, several such picked skeletons were found, each amid piles of feathers. With plenty of smaller species present, it seemed strange that this small owl would have elected to tackle so strong and tenacious a bird as a Starling. The owl proved to be a female and, while there was the normal slight increase in size of the ovaries due at this season, no units were advanced in enlargement as would have been the case if nesting were in early prospect. This is the 7th State record and the 2nd for the Nashville area.

On February 23, W. M. Walker visited the roost and near where the first owl was found, he flushed near at hand what he felt certain was another of the same species. Again, on March 5, he heard an owl calling among the cedars and, from the description given in Bent's Life Histories, believed it to be a Long-ear, probably the male in each case. Exploring the possibility that it might secure a mate and remain to nest, we searched the area thoroughly on March 31 and, after climbing to all of the six old Crow nests found, decided the owl had migrated northward.—ALBERT F. GANIER, Nashville, Tenn.

RED-COCKADED WOODPECKER IN SOUTHWEST TENN.—While on a visit of several days at Counce, Hardin County, Tenn., I was so fortunate as to list an individual of this species (*Dryobates b. borealis*), on March 31, 1946. It was in a mixed woodland consisting of pines and hardwoods, on the hill at the rear of old Red Sulphur Springs. Mr. Ganier and Dr. Mayfield searched for it here some years ago without success but John B. Calhoun found several 30 miles due west, near Pocahontas, Tenn., and it has been recorded about 15 miles south, near Iuka, Miss.—CYNTHIA C. COUNCE, Western State Hospital, Hopkinsville, Ky.

RAVENS IN THE GREAT SMOKIES.—On September 15, 1945, while on a motor trip in the National Park, I saw 8 American Ravens flying and sailing over the road at Collin's Gap. This was at elevation 5,720 feet and about 2 miles east of the Clingman's Dome parking area. The birds were relatively unwary, coming to within a few hundred feet, and the size, shape and call-notes made identification certain. One of the birds settled in the top of a tall spruce some distance away.

A while later, my wife, brother and I went on to the Dome parking area (6,300 feet elevation) and, while I made an excursion by trail to the

summit, the others saw 2 more Ravens come over at a distance of as little as 40 to 50 feet away. One bird was making a display of his flying prowess by "tumbling" in the brisk wind currents. The birds appear almost as large as Vultures, their wedge-shaped tails and distinctive shape of head were readily noted. At such close range the size appears much greater than that of a Crow. The croaking Raven note was heard several times and at different locations. Anyone could readily see these birds from the Skyline Highway, between Newfound Gap and the Dome, as they appear to frequent this location regularly, particularly at Collin's Gap.—RAY C. WERNER, 758 Wildwood Rd., Atlanta, Georgia.

THE HOUSE WREN IN THE KNOXVILLE REGION.—Because the House Wren, (*Troglodytes aedon*) is only rarely recorded in the Knoxville area, where I formerly resided, the following records of its occurrence may be of interest.

On April 29, 1939, Mrs. Meyer heard and saw a single bird at the Island Home Sanctuary. From 1939 to 1944 I have no records of this bird; however, Mrs. Meyer's diary of May 12, 1944 states: "I was attracted by the familiar song of the House Wren so common at home in Illinois and discovered one carrying sticks and grass into the rustic bird-box near our outdoor oven." This bird was in our yard daily through June 11. During this time it sang so frequently that its bubbling chatter at times became monotonous. It also carried nesting materials into four different bird-boxes but a complete nest was not made in any of the boxes. Between June 12 and June 17 this bird was not observed or heard in the area. From June 18 through July 4 this same wren (or a different one) regularly visited and sang in our yard. During this entire period of time May 12 through July 4 only one House Wren was seen or heard at any one time, and we concluded that our visitant was an unmated bird.

As far as I know there are no winter records of the House Wren for Knoxville. A note from Mr. William Walker reports a House Wren seen and heard in the Island Home area on March 24, 1945. This is our earliest Spring record. He found this bird near a shed on St. James street. Since then Mr. Walker has observed the House Wren in that area on March 27, April 1, and April 3. On April 1 and 3 he reported the wren going to roost in a clump of honeysuckle "a few minutes after sunset."

On May 15 Mrs. Meyer's diary again reports the House Wren singing in our yard. We hoped it would stay and acquire a mate, but a nesting record does not seem to be imminent for the bird has not been seen again.—HENRY MEYER, 307 Spaulding Ave., Ripon, Wis.

SOME OBSERVATIONS ON MIGRATING RAPTORES AT NASHVILLE, TENN.—On Sept. 30th, 1945, approximately a dozen Broad-winged Hawks (*Buteo p. platyterus*) were seen circling at several hundred feet overhead, gradually moving southward. While watching them, the writer saw a Peregrine Falcon (*Falco peregrinus anatum*) pass beneath them with steady, quick wing-beats, soon disappearing southward over the hills toward Radnor Lake. Other Broad-wings were seen, a few at a time, throughout the day. Mrs. Laskey saw a larger flock of perhaps 75 Broad-wings on Sept. 27 while at Radnor Lake and, while watching them circling like so many flies overhead, a large falcon, presumably a Peregrine, passed south-

ward beneath them. Both of the two observations mentioned above were made at about 10 a.m.

On the morning of Oct. 1 at 8:00 A.M., Mr. Adams on Brighton Ave. near the West End High School, reported many Broad-wings both in flocks overhead, and also in the trees around his house. Many seemed to be coming out of the few acres of wooded land just north of his house, where he thought it probable they had passed the night. One bird, an immature, was shot and is now in Mr. Ganier's collection. Reports of this flock recorded the birds as in "thousands", and while this is no doubt exaggerated, there may have been several hundred in all. The area where this group was seen is in the heart of a suburban residential section, and it is difficult to understand how they penetrated so far into the suburban areas without being more generally seen. Presumably they may have spent the night a few miles to the north, perhaps as far away as Paradise Ridge, and were just getting underway for the days flight. Many of them had not gotten any elevation, and it was too early for the formation of thermal currents to lift them, as occurs later in the day.

In late September, thousands of Broad-wings and smaller numbers of many other raptores are reported annually in flyways along the Appalachian mountain system much further northeast, and there is one observation of many hundred Broad-wings seen leaving a woods in early morning in southern Louisiana but observations of the birds passing through this State in numbers in the fall seem to be largely unrecorded. Probably most of the birds come from Canadian forests, but they nest regularly over the eastern United States and are regular though uncommon summer residents throughout Tennessee. Both the Broad-wings in the east and the Swainson's Hawk in the plains states migrate in flocks and go to South America for the winter months, while most other raptores have much less spectacular flights and winter in the southern states.—WALTER R. SPOFFORD, Nashville, Tenn.

BIRDS OF THE MAMMOTH CAVE NATIONAL PARK, is the title of a 24 page booklet recently prepared by Dr. Gordon Wilson of Bowling Green, Kentucky, which by reason of its accuracy and arrangement should serve as an adequate guide for years to come. Perhaps the most commendable thing about this publication is the fact that the author, over a period of years, has really done the proper amount of field work in the area treated to enable him to cover his subject in an authoritative manner. An annotated list of the 163 species actually recorded in the Park covers 7 pages and in addition to the Park list, there is included a supplemental list of additional species that the author has recorded at nearby Bowling Green. With a view of enlisting the interest of a maximum number of Park visitors, the author includes chapters setting forth the attractiveness of bird study as a recreation and tells of the best localities to visit in search of unusual species. Eight illustrations are included, also a map which shows the localities referred to and the roads by which they may be reached.—A.F.G.

We are indebted to Mr. and Mrs. Fred W. Behrend for contributing the expense involved in reproducing the frontispiece in this issue.

ERRATA.—In the mid-winter Bird Census, published in last issue, there was omitted from the column covering list made in the Great Smoky Mountains Park; Blue Jay, 11, and Horned Lark, 16. Readers will please insert these figures in the December issue.

THE MIGRANT

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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

ORNITHOLOGY A CENTURY AGO

More than a hundred years have passed since the first handbook of birds was published, viz., Thomas Nuttall's "Ornithology of Eastern North America." True, the pretentious works of Wilson and Bonaparte had preceded it but the price of these volumes and their size, precluded their use as a "handbook" such as evolved finally into the incomparable Chapman's. Coming to our point, however, it is from Nuttall's introduction to his book, in 1832, that we wish to quote, for the purpose of showing that bird study at that early time inspired the same interests and invitation to the enthusiastic field worker that it does today.

"Of all classes of animals by which we are surrounded in the ample field of nature, there are none more remarkable in their appearance and habits than the feathered inhabitants of the air. They play around us like fairy spirits, elude approach in an element which defies our pursuit, soar out of sight in the yielding sky, journey over our heads in marshalled ranks, dart like meteors in the sunshine of summer, or, seeking the solitary recesses of the forests and the waters, they glide before us like beings of fancy. They diversify the still landscape with the most lively motion and beautiful association; they come and go with the change of season; and as their actions are directed by an uncontrollable instinct of provident Nature, they may be considered as concomitant with the beauty of the surrounding scene. With what grateful sensations do we involuntarily hail the arrival of these faithful messengers of spring and summer, after the lapse of the dreary winter, which compelled them to forsake us for more favorable climes. Their songs, now heard from the leafy groves and shadowy forests, inspire delight, or recollections of the pleasing past, in every breast. How volatile, how capricious, how musical and happy, are these roving sylphs of Nature, to whom the air, the earth, and the waters are alike inhabitable. Their lives are spent in boundless action; and Nature, with an omniscient benevolence, has assisted and formed them for this wonderful display of perpetual life and vigor, in an element almost their own."

GLENHAVEN

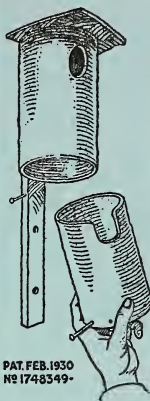
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Bird Banding Traps
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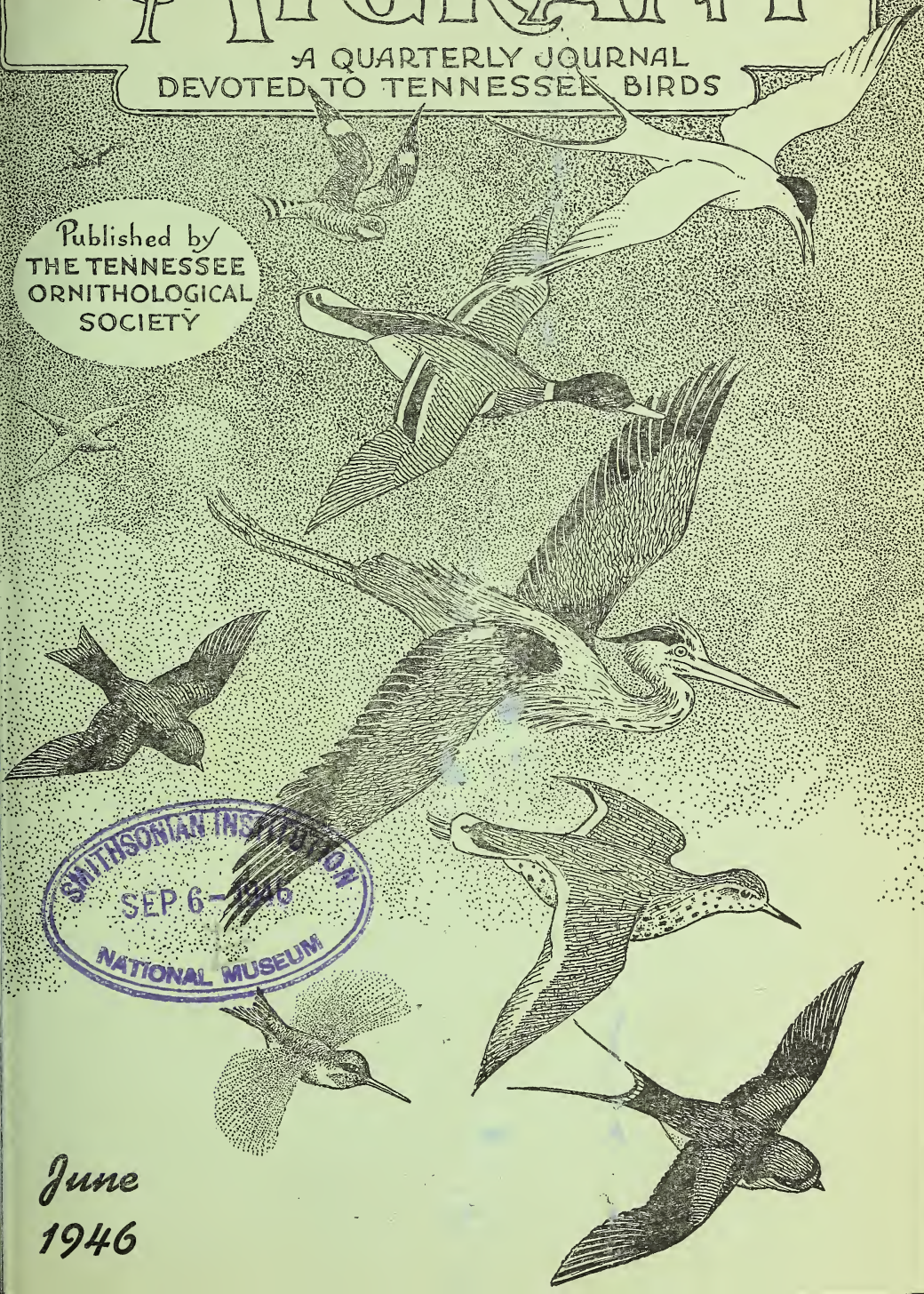
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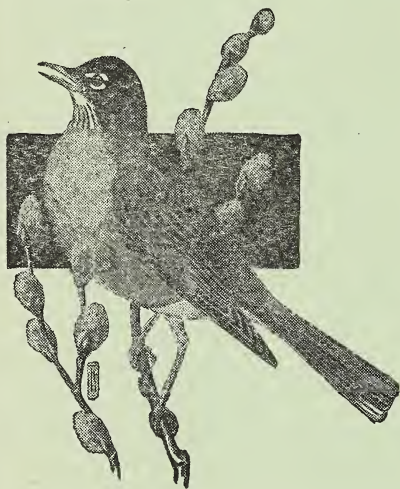
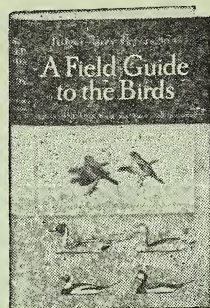
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A KINGBIRD ROOST

By HARRY C. MONK

The most memorable ornithological experience of the nine months spent on construction of the Wolf Creek Ordnance Plant at Milan, Tenn., in 1941 was the discovery of a Kingbird roost at Whitthorne, Carroll County, in September of that year.

Kingbirds (*Tyrannus tyrannus*) had been fairly common in that area all summer, being noticeably more numerous than they are near Nashville, in Davidson County. In August they became much less conspicuous, and it was assumed that they would gradually decrease, until the last was observed some time in September, as is the case in the Nashville area. Accordingly, I was interested in listing birds met with in September, in order to secure a date of departure.

It was several miles from my dormitory in the Administrative Center at the former village of Whitthorne to the time clocks and place of work, and it was necessary to leave at 6:15 a.m.; this was Daylight Saving time, and about the time the sun appeared over the treetops. On the morning of September 5th, Kingbirds were heard from the little grove just to the north where a family of them had lived all summer. This was at 6:15 a.m. Apparently the family were still in their breeding territory. Looking up expecting to see a small group on the wires, I was amazed to see instead, a loose, straggling flock of perhaps two-hundred birds rising from the grove and flying away almost due south, passing directly over the parking lot where I stood. They were climbing at a considerable angle as they left their perches, and rising quite high, as they progressed; judged by the known height of neighboring water tanks, they were already over 200 ft. above the earth. Only a few calls were heard from this group. This flock was about a hundred yards wide by several hundred yards long, and in its general organization and appearance closely resembled the robin flocks observed about their roosts and in winter when they range about our areas. This resemblance was noted repeatedly in observing the Kingbird roosting group.

The next morning the same sight was observed. A flock of the same size left the grove and moved off to the south, quite high as on the morning of the 5th. Again, on Monday morning the 8th, the observation was duplicated. The birds milled above over their roosting site very briefly before going off enmasse; in each case they flew away to the south, and passed on out of sight without alighting. Their high flight in a group southwardly suggested a migratory movement instead of the breaking up of a roosting group, yet they apparently returned to the roost each night. These events focussed attention on the species and some exploration of the area was made during the day, seeking Kingbirds. None could be found. Obviously they all traveled far and did not filter back to the roost during the day.

At dusk on the 8th I visited the roost site. A small grove of trees, six oaks and four hickories of medium size, stood on a low knoll. No other trees of this size stood within a quarter of a mile. On one side of the knoll, John's creek flows thru a narrow floodplain in which corn and cotton stalks of last year's crops still stand. A brook crossing this bottom was bordered by a narrow belt of giant ragweed, ten feet tall and a thousand feet long. Here I found scores of Kingbirds, many in the tree tops, others perched on the dead corn stalks all over the old field and still others were seen diving into the ragweed. This area, entirely indistinguished to human eyes from a hundred other old fields and tree groups in the area, was evidently a place of regular resort.

On September 9th the same flock left the roost as before described. That evening I was able to spend some time at the site and observe the assembling of this group of Kingbirds. While walking to the roost at 5:45 p.m., two Kingbirds passed swiftly over me at a low elevation, coming from the south. Two more flew in at 5:50 p.m. At that time several score were already in the roost; 8 were counted in one tree. I took my stand out in the open with a clear view of the skyline in all directions, facing the east. It was just in time. At 6:00 four came in from the south, traveling at a high elevation. Two and then three more followed in from the west. These birds traveled swiftly and dived into the trees or weeds as they arrived. They were silent in flight. At 6:05 a flock of over 60 arrived from the south. They settled in the tree tops. At 6:06 counted 130 in a large, straggling flock arriving from the east-northeast. They were first sighted as specks well above tree-tops, proceeding directly to the roost, the count growing steadily as the long-drawn out group came closer. At 6:08, 125 Kingbirds were counted into the roost from the east. These groups were described at this time as loose flocks, resembling Robins more than any other gregarious bird. They alighted in trees, bushes and weeds all about the area. At 6:10 a flock of 50 came in from the north. At 6:12, counted 60 more from the east. At 6:15, 100 arrived from the east while a group of 46 came in from the north-east. At this time several hundred were milling about over the roost site and its vicinity, and so obscured the skyline from the observer in their midst that further counting of arrivals was impossible, tho it seems certain that more did come in. The count totaled 584 at this time, and it is certain that at least 600 were present, while it is quite possible 1000 were actually in the roost that night.

There were many interesting sights in this roost. Thirty Kingbirds were counted in the top of one small honey locust, as closely grouped as a flock of Waxwings. In the tip of one tree, 12 showed against the sky. When the birds in the top of one of the larger trees were disturbed they flushed in flocks as dense as a swarm of Starlings. As new arrivals poured in, seeking a perch in the crowded trees there was continual bill snapping as these newcomers were warned to keep their distance. One stretch of fence a hundred feet long was occupied by 30 birds at one time.

Into the midst of this throng a small raptore, almost certainly a Sharp-shinned Hawk, suddenly appeared. It pointedly stooped at the trees and set scores to flight. This occurred several times, and in between attacks

the hawk sailed about among the milling throng he had put to flight. I fully expected the Kingbirds to "mob" him as they normally do in nesting season, but only one bird made any effort to drive the hawk away, and that one made only a half hearted swoop at the intruder.

Investigation at the hour of roosting showed the great majority spent the night in the tree-tops, while some others evidently roosted in other trees or bushes scattered about the creek bottom or even in dense weeds. The ragweed tangle was apparently little used.

The next morning (Sept. 10) was overcast, with a cold north wind. It was rather dark at the usual time for Kingbird flight and none were seen before I had to leave. That evening the roost was again visited and only a few birds found present. I counted 27 in view at one time in trees and along fences and felt sure as many more were concealed in trees and weeds. This was the last seen of the Kingbirds; the next morning was clear, but none were seen. It was a typical fall day, chill north wind, temperature in the sixties. On the 12th I made a final canvas of the roost site and found it deserted.

406 AVOCA ST., NASHVILLE, TENN.

FIELD NOTES FROM THE SMYRNA AREA

By CPL. JAMES N. LAYNE

Stationed with the Army Air Forces at Smyrna, 20 miles southeast of Nashville, since last fall, the writer has been fortunate in becoming familiar with a large portion of Middle Tennessee avifauna. The topography of the Smyrna Army Air Base and adjacent territory provides such a variety of landscapes—ranging from hardwood covered hills and cedar forests to broad, open meadows—that a number of birds which differ markedly in their choice of environment have frequently been observed in a few hours time. Such species as Pileated Woodpecker and Dickcissel, Broad-winged Hawk and Red-winged Blackbird, or Red-eyed Vireo and Grasshopper Sparrow often appear on lists made over only a few miles of country. Undoubtedly this variation of cover has been the factor responsible for several recent records which may be of interest.

On May 26 an adult Lark Sparrow was seen in a field within the air base. This field, located near the Post Engineers Incinerator plant, is sparsely vegetated with weeds, clumps of grass, and small bushes. Most of the time the sparrow was under observation it perched about 4 feet high in a weed, but was several times seen on the ground where its actions appeared quite lark-like. On the following day the field was again visited and two Lark Sparrows observed in the same vicinity where the one had been seen the day before. It is believed that the birds comprised a pair; for, although sex could not be positively determined, the one believed to have been the female had less-distinct head markings than the other. Although this locality was covered on successive days no further trace of the handsome sparrows was found. Three Lark Sparrows were identified June 16 in a ploughed field not more than one-fourth of a mile from the air base where the species was first recorded. One bird was perched on some

telephone wires near a road that bordered the field while the other 2 birds were seen on the ground. On June 19 and 23 a single Lark Sparrow was again observed perched on the same telephone wire. Each time the area was checked a search for nests was conducted without success.

A Migrant Shrike nest was found in the same field June 18. The nest was discovered in a bushy, vine-covered tree about 25 feet in height that stood alone in the field. Located near the top of the tree, the nest was placed in a tangled mass of vines and constructed of rather fine twigs and rootlets and well-lined with cotton fibers—evidently procured from cotton boles scattered about on the ground. The nest, probably elongated by the stirrings of the young, measured approximately 3 inches deep, 4 inches wide, and 6 inches long. Although it was unoccupied, numerous droppings both in the nest and around the base of the tree attested to the fact that it had been inhabited, and the presence of a visibly agitated adult shrike gave reason to believe that the young had only recently left. A search revealed two young shrikes perched in the upper branches of the tree and a third was flushed from the bottom of a fence post about 50 yards away. On the following day the young were nowhere to be found although an adult bird put in an appearance.

The nest of a Broad-winged Hawk, which contained one nestling, was discovered June 16 in a strip of woods near Stones River, about two miles from the air base. The nest, approximately 18 inches in diameter, was built in crotch of an oak at a height of some 50 feet. The nest tree stood within 20 feet of a small path, and about 400 yards from farm buildings. When the nest tree was climbed two days later the hawklet, still unable to fly well, backed from the crude platform of sticks and fell about 10 feet before seizing a branch from which it hung upside down by one foot until rescued, banded, and returned to the nest. Dr. Walter R. Spofford and Lt. Kenneth R. Lawless accompanied the writer to the site on June 23. This time the young hawk, probably about 4 weeks of age, scrambled from the nest when the climber was about 6 feet below and struck out, in gradually descending flight, across a meadow to the northwest of the nest tree. Following its landing near the center of the field the party was treated to an interesting sight; for within a few seconds after the nestling had come to earth an adult Broadwing came in from the north in a long, slanting swoop and landed beside the youngster on the ground, remaining with it until the observers drew near. The only traces of food remains found in or about the nest—which was remarkably clean and abundantly lined with fresh foliage—were small bits of fur, several small bird feathers, and two grasshopper legs. During all the visits to the nest site the adult buteos confined their protestations to occasionally soaring over the area or perching close by and uttering their characteristic Wood-pewee-like note. On June 27 the nest was empty and neither young or adults could be located in the vicinity.

Besides the above nesting pair and young, an adult Broadwing in immature plumage was seen April 20, another adult May 4, and 2 on July 7, in the Smyrna region. Three were listed May 12 south-west of Nashville during the T.O.S. Spring Field Day, and 3 more were noted about 8 miles

south of Murfreesboro on July 5. In addition to these, Mr. H. O. Todd of Murfreesboro recently located a nest containing 2 young in that area. On the basis of this number it might well be possible that the Broad-winged Hawk is more numerous in Middle Tennessee than believed.

A lone Upland Plover (*Bartramia longicauda*) was observed near the north end of the air base June 25. When the locality was revisited the next day a relatively large number of the birds were found to be present. A count taken of the individuals in one strip of territory about 200 yards long and 50 yards wide revealed 34. Cpl. Philip S. Humphrey and the writer attempted to make a fairly complete census of the flock on June 28. The number actually counted reached 70 before the arriving and departing of groups of as many as 10 to 15 or more plovers so confused the watchers that only an approximation could finally be made. It can safely be said, however, that the flock numbered over 100 birds. Since June 28 small groups and individuals have been recorded regularly, and at the date of this writing, July 12, a group of 11 was seen in one area of about 4 acres. The type of cover that the birds seem to prefer are the grassy fields, cropped to a height of 6 to 9 inches and fairly uniformly though thinly grown with weeds of 2 to 4 foot height, which lay between the runways and taxi strips of the air base. Occasionally individuals have been observed on the concrete taxi ways and landing strips. When sought afoot, they would not permit a closer approach than 500 feet.

Perhaps the most interesting of the records made at Smyrna this Spring was the discovery on June 25 of a male Marsh Hawk which had been shot on the edge of a patch of woods about 5 miles north of the base. The harrier, not due to remain here in summer, was well into its molt, and was at least a second year bird because of the fact that the unmolted plumage was adult. According to the owner of the property the bird had been shot by an unknown person a "few" days before. A pair of Marsh Hawks were recorded March 24 within one-fourth of a mile of this locale, but none had been recorded subsequent to this date although this particular section had been covered almost weekly. On July 7 the body of the harrier was re-examined and two primary feathers of the right wing, removed for a permanent record. To the chagrin of the party the remains of a Barn Owl, which had been shot, were found within a few feet of the defunct hawk. As a pair of Barn Owls reside within a mile of this region it is feared that the dead owl might have been of this pair. No investigation has yet been undertaken to determine whether this is the case.

A few additional notes which might deserve mention include a male Ruddy Duck recorded March 24 on Stewarts Creek, which runs through the air base; a Barred Owl nest near Murfreesboro containing 3 small young, April 6; an adult male American Golden-eye Duck in a half acre quarry on the air base, April 10; a female Hooded Merganser in the same quarry, April 13; a Barn Swallow nest approximately 1 mile from base, June 8; a female Wood Duck with 15 young on Stewarts Creek, June 25; and 5 Prairie Horned Larks on the air base, June 28. Horned Larks have been noted almost daily since then.

U. S. ARMY AIR BASE, SMYRNA, TENNESSEE.

CHIMNEY SWIFT NESTS ON WALL IN BUILDING

By HENRY O. TODD

While making photographs of a new building for the Veterans Hospital near Murfreesboro, Tenn., I found an unusually located nest of the Chimney Swift (*Chaetura pelagica*) on June 25, 1946. Instead of being inside of a chimney, as it almost always is when chimneys are available, this nest had been fixed to the face of a brick wall inside of a new building and three feet from the ceiling. The room in which it was located was the pent-house which had been built on the roof level of the three story brick



building. It was 16 by 32 feet with 9 foot ceilings and is used to house the elevator machinery, etc. Exterior openings were two small windows near the top of a side wall permitting entrance thru the sash in which the glass had not as yet been put in. The nest was glued to an end wall about 6 feet from a window. The Swift left the nest, which contained 3 eggs, and flew thru the far window. Next day, while accompanied by Prof. George Davis, the bird flushed and fortunately alit just below the nest, making possible the photo shown above.—106 MAIN ST., MURFREESBORO, TENN.

BIRDS LISTED ON THREE SPRING FIELD DAYS

By MEMBERS OF TENNESSEE ORNITHOLOGICAL SOCIETY

Every spring, during the first part of May, several of our chapters follow the custom of devoting an entire day to listing the birds found present. Such a list includes summer and permanent residents as well as transients, and such winter visitants as may still be about. On Sunday, May 5, 1946, one party of T.O.S. members were listing birds on Roan Mountain, Tenn., (6313 feet above sea level) and vicinity, while five-hundred miles westward another group were listing birds about Memphis at as low as two-hundred feet above sea level. On the following Sunday and midway between, the Nashville group made a similar list. The three lists are reproduced below and form a composite picture of the wealth of bird life present in Tennessee at that season.—ED.

MEMPHIS, May 5. Brief stops at Mississippi river wharf and Riverside Park thence south to Lakeview for morning near Horn Lake. Afternoon at borrowpits along levee, to Mud Lake. About 50 members listing. Total species 125.

NASHVILLE, May 12. Motoring westward 22 miles to South Harpeth river where day was spent. A few additional species added by small party visiting Radnor Lake. About 50 members listing. Total species 106 (small number due to restricted area covered and time out for business meeting).

ELIZABETHTON and vicinity, May 5, including Doe river gorge and Roan mountain (one observer, F. W. Behrend went to summits spending day there). The Duck Hawks were seen in Doe river gorge. Birds observed on Roan mountain are grouped by altitudes, as follows; "a," on summits, from 6313 S.L. to 5250 at Carvers Gap; "b," between 5350 and 3500; "c," between 3500 and 2500. The Raven was seen at 4000' and a Thrasher at 6000'. Total species 122, individuals 3337, cooperators 19.

The composite list totals 156 species. The designations "c" and "fc" denote common and fairly common. We regret that space does not permit giving the names of all those who cooperated.

Species	Mem- phis	Nash- ville	Eliz- 'ton	Roan Mtn.	Species	Mem- phis	Nash- ville	Eliz- 'ton	Roan Mtn.
D-cr Cormorant -----	1	-	-		Olive-b Thrush -----	10	10	6	
Gt Blue Heron -----	4	-	1		Gray-cheek Thrush -	4	1	-	
American Egret -----	2	-	-		Veery -----	3	-	6	a
Green Heron -----	1	1	4		Bluebird -----	7	fc	30	
Amer. Bittern -----	1	-	-		Gnatcatcher -----	35	8	11	
Blue-wing Teal -----	3	-	-		Gold-cr Kinglet -----	-	-	8	a
Wood Duck -----	6	-	-		Ruby-cr Kinglet -----	1	-	7	
Lesser Scaup -----	-	2	-		Cedar Waxwing -----	8	6	15	
Turkey Vulture -----	5	5	7		Migrant Shrike -----	11	-	-	
Black Vulture -----	3	4	-		Starling -----	2	fc	190	
Mississippi Kite ----	4	-	-		Wh-eyed Vireo -----	10	fc	34	
Sharp-sh Hawk -----	-	1	-		Yel-throat Vireo ----	1	4	7	
Coopers Hawk -----	1	1	-		Blue-head Vireo -----	2	-	3	
Red-tail Hawk -----	-	1	1	a	Red-eyed Viero -----	40	c	80	
Red-shld Hawk -----	1	2	-		Warbling Vireo -----	7	-	9	
Broad-wing Hawk ----	3	2	1		B-&-W Warbler -----	2	6	45	b
Sparrow Hawk -----	3	2	8		Prothon' Warbler ----	22	fc	-	

Duck Hawk	-	-	2		Swainsons Warbler	2	-	-	
Osprey	2	1	1		Worm-eating Warbler	-	-	18	b
Ruffed Grouse	-	-	2	b	Golden-wing Warbler	4	-	3	b
Bob-white	2	3	20		Blue-winged Warbler	2	2	-	
Sora Rail	1	-	-		Tennessee Warbler	35	-	9	
Amer. Coot	-	1	-		Nashville Warbler	2	-	1	
Killdeer	6	1	10		Parula Warbler	11	5	14	
Woodcock	-	-	1		Yellow Warbler	3	fc	88	bc
Sol. Sandpiper	1	1	1		Magnolia Warbler	3	3	11	
Spotted Sandpiper	1	1	4		Cape May Warbler	-	5	3	
G'r Yellowlegs	8	-	-		Cairn's Warbler	-	-	46	ab
Lesser Yellowlegs	2	-	-		Myrtle Warbler	7	6	20	
Least Sandp'r	1	1	-		Bl-th Green Warbler	4	2	24	
Ring-bill Gull	1	-	-		Cerulean Warbler	6	fc	-	
Mourning Dove	23	3	42	c	Blackburnian Warbler	1	5	3	b
Yel-b. Cuckoo	8	2	6		Sycamore Warbler	6	5	-	
Screech Owl	-	1	1		Chestnut-s Warbler	4	3	36	ab
Great Hd Owl	-	1	3		Bay-breasted Warbler	1	fc	8	
Barred Owl	1	1	-		Black-poll Warbler	3	4	4	
Chuck-w-widow	-	1	-		Pine Warbler	-	-	1	
Whip-poor-will	1	-	8	c	Prairie Warbler	-	3	4	
Nighthawk	3	1	1		Palm Warbler	15	1	6	
Chimney Swift	13	fc	65		Ovenbird	10	-	77	b
Ruby-t Hummer	15	1	14		N. Water-thrush	-	1	1	
Kingfisher	3	1	4		Louisiana Thrush	1	fc	8	c
Flicker	10	2	42	a	Kent. Warbler	7	2	25	
Pileated Woodp'r	2	3	4		Yellowthroat	40	c	47	
Red-bel. Woodp'r	10	3	-		Yellow-br Chat	10	7	45	c
Red-head Woodp'r	4	2	1		Hooded Warbler	10	3	41	
Hairy Woodp'r	7	1	4		Wilson's Warbler	-	1	-	
Downy Woodp'r	6	2	4		Canada Warbler	1	3	18	b
Kingbird	16	1	10		Amer. Redstart	18	6	16	
Cr Flycatcher	13	3	13		Eng. Sparrow	24	6	140	
Acadian Flycatcher	20	fc	7		Bobolink	300	-	-	
Least Flycatcher	-	-	9	b	Meadowlark	92	3	39	
Phoebe	-	fc	31	c	Red-wing	26	4	64	
Wood Pewee	12	fc	59	c	Orchard Oriole	12	2	6	
Horned Lark	2	-	10		Baltimore Oriole	5	2	12	
Tree Swallow	53	-	5		Purple Grackle	-	-	111	c
Bank Swallow	20	-	21		Bronzed Grackle	10	6	-	
Rough-wing Swallow	7	5	14		Cowbird	26	4	45	
Barn Swallow	-	2	40		Scarlet Tanager	2	3	25	b
Cliff Swallow	-	-	8		Summer Tanager	16	fc	9	
Purple Martin	8	4	18		Cardinal	50	fc	56	
Blue Jay	17	4	73	ab	Rose-b Grosbeak	10	1	30	b
Raven	-	-	1	b	Indigo Bunting	15	c	55	c
Common Crow	2	4	49	b	Painted Bunting	1	-	-	
Fish Crow	2	-	-		Dickcissel	108	-	-	
Car. Chickadee	18	fc	19	c	Goldfinch	16	c	71	a
Bl.-capped Chickadee	-	-	15	a	Towhee	1	4	110	abc
Tufted Titmouse	6	6	27	b	Savan' Sparrow	25	-	1	
Wh-br. Nuthatch	2	1	15	ab	Grasshopper Swallow	-	-	21	
Winter Wren	-	-	22	a	Vesper Sparrow	-	-	1	
Bewicks Wren	2	1	5		Carolina Junco	-	-	100	a
Carolina Wren	12	6	38	c	Field Sparrow	5	fc	68	c
Sh-b Marsh Wren	13	-	-		Chipping Sparrow	-	2	34	c
Mockingbird	8	5	45		Wh-crowned Sparrow	2	1	3	
Catbird	3	3	98	abc	Wh-throated Sparrow	6	2	6	
Brown Thrasher	10	1	52	a	Lincolns Sparrow	5	-	1	
Robin	2	fc	96	abc	Swamp Sparrow	6	-	-	
Wood Thrush	9	fc	63	b	Song Sparrow	-	-	134	bc

THE ROUND TABLE

DEPARTURE OF THE EASTERN EVENING GROSBEAK FROM ELIZABETHTON.—The Eastern Evening Grosbeaks' visit in Elizabethton came to an end on May 4. While in the early days of April their number still amounted to 40, more or less; the average dropped to about 18 for most of the latter third of that month, falling off steadily further until a mere five were left in the waning days of their stay beginning of May. It was the privilege of Professor Henry M. Stevenson of Emory and Henry College, Emory, Virginia (formerly of Oxford, Miss.), of Mr. W. F. Pearson, Kingsport, Tennessee, both of whom had arrived early for the annual spring census of the Elizabethton Chapter on May 5, and of Dr. Lee Roy Herndon of the Chapter, last to record the Evening Grosbeaks in the afternoon of May 4, while the writer had listed them on his regular morning check-up of that day in the unexpected company of a number of Cedar Waxings. Ironically, the Grosbeaks escaped being included in the spring census list of the Elizabethton Chapter by one day. It may be remembered from notes in the December 1945 issue of *THE MIGRANT* that they missed being recorded on the midwinter census by one week.

As might have been surmised, other southern territories experienced an influx of Evening Grosbeaks last winter. It has come to the attention of the Elizabethton Chapter that flocks of varying sizes, although by far not as large as that here, were observed near Washington, D. C., Charlottesville, Virginia, and in North Carolina. Of particular interest was the observation of a flock by Professor Stevenson in Abingdon, situated in the southwestern corner of Virginia, some 40 miles northeast of Elizabethton. Here is his account: "I believe I mentioned my plan to look for the Evening Grosbeak in Abingdon—ten miles from here (Emory). This I did on January 26, and, after walking the streets for about 30 minutes, I saw a flock of birds flying into a sugar maple. At first glance I took them to be Waxwings (light conditions were very poor), but I could seem to make out the heavy bills without the use of my field glasses. Thus it was no surprise to find, as soon as I had focused my glasses on them that they really were Evening Grosbeaks. There were 8 of them, at least three of each sex. It was not until later that I found some box elders, several blocks away, and these were practically devoid of seeds. These birds were, of course, a new record for this region." It was learned quite recently that Evening Grosbeaks had been recorded in Abingdon by another observer.

From *The Chat*, publication of the North Carolina Bird Club, I learn that Evening Grosbeaks were recorded in that state during the past winter as follows: (a) at Salisbury, 110 miles S-E of Elizabethton, "a large flock" were present during the last two weeks in January; (b) at High Point, 130 miles E-S-E of Elizabethton, 2 seen on March 4, and 4 on March 19; (c) at Henderson, 215 miles east of Elizabethton, 1 seen on March 20, 13 on April 3 and a single bird on April 9; (d) at Greensboro, 140 miles east of Elizabethton, 1 seen on April 3rd.—FRED W. BEHREND, Milligan College, Tenn.

A BLUE GROSBEAK IN NORTHEAST TENN.—On May 4, 1936, I had the unusual experience of observing a Blue Grosbeak (*Guiraca caerulea*) near Elizabethton. So far as I know, this is the only Tennessee record east of Nashville. It was feeding alternately in a low bush and upon the ground and was at such close range that I could not focus my binoculars on it. I had leisurely views at all angles, observed its contour and noted that the chestnut wing patches were very obvious. An Indigo Bunting also alighted in the bush and the difference in size was quite apparent. Incidentally, this proved to be a real Grosbeak day for in addition to the Blue, I also listed the Rose-breasted, the Cardinal and the Evening Grosbeak, this being the last day of the latter's stay here.—LEE R. HERNDON, 1533 Burgie Place, Elizabethton, Tenn.

AN OLD SQUAW DUCK ON REELFOOT LAKE.—On April 12, 1946, a male Old-squaw (*Clangula hyemalis*), in transition plumage, was observed on Reelfoot Lake, Tenn., north of Samburg off Indian Creek. I flushed this bird while rowing a boat, followed it up and again studied it in detail from fifty yards with Bausch and Lomb 8-power field glass. There is a mounted bird of this species at the Walnut Log hotel, said to have been taken on the Lake.—JOHN H. STEENIS, U. S. Fish and Wildlife Service, P. O. Box 313, Paris, Tenn.

SPARROW HAWK NESTS IN A CLIFF.—Enroute to the East Tennessee mountains, on June 15, 1946, we had crossed the Cumberland Plateau and were ready to motor down into the deep valley at Pikeville. The road here drops thru a gap in the escarpment and then runs beneath the bold sandstone cliff that soon towers a hundred feet above. "There was probably a falcon's eyrie in that cliff, in early times," one of us said. A moment later, and to our surprise, a little falcon sailed from the face of the cliff and out over the valley; not the Peregrine to which our remarks referred, but a Sparrow Hawk (*Falco sparverius*). Noting the spot where it had left, we stopped and there saw, high up, several small "pot-holes," some of which appeared suitable for nesting purposes. From one of them, the unmistakable food call of nearly fledged young Sparrow Hawks could be constantly heard, thus confirming our assumption that it was a nesting site. By reference to Bent's comprehensive Life Histories, we find no account of its nesting in cliffs, save his quotation from Bendire (1892) that it had been found to do so in the arid West where tree cavities were unavailable.—ALBERT F. GANIER, Nashville and ALFRED CLEBSCH, Clarksville, Tenn.

HAWKS GRAPPLING IN MID-AIR.—On November 4, 1945, while at Mammoth Cave National Park attending the field day of the Kentucky Ornithological Society, the writer witnessed an unusual combat or mock-combat between two Red-tailed Hawks (*Buteo borealis*). When first seen, a single bird was soaring well above the high forested hills which overlook the Green River ferry. While our group watched this bird with binoculars we perceived another approaching it and as he closed in, each presented its talons and grappled those of its antagonist. Thus locked together, they whirled around in the air with awkward wing-flapping and lost 50 to 100 feet of altitude before breaking away. They then soared upward and

repeated the performance twice again before moving out of sight over the hills. A third hawk came near but did not intervene. No striking with their beaks was observed nor were any feathers seen to fall. At that season, there would seem to be no great urge for territory defense. Experienced observers in our group said they had not previously witnessed such behavior between hawks and believed it to be a demonstration of play between two young of the year.—ROBERT SOLLMANN, Sterling Road, Nashville 5, Tenn.

PILEATED WOODPECKER'S REACTION TO A HAWK.—On January 14, 1946, I watched a pair of Pileated Woodpecker's (*Ceophloeus pileatus*) for about five minutes as they shared the same tree with a pair of Flickers. Both species appeared to drink several times from a hollow caused by the falling of a rotted limb. The Pileated twice gave a weak call similar to that of a Robin. Although I was less than a hundred feet from them, they showed no fear of me, even when I wiped my binoculars with a white handkerchief. Looking about, I happened to see a Cooper's Hawk (*Accipiter cooperi*) glide swiftly into another tree, about 200 feet to my left. After watching him alight, I looked back for the woodpeckers but could not find any of them at first.

Finally, I discovered the female Pileated and saw that she had swung around to the side of the tree opposite the hawk and clung there as still as if frozen. Her neck was drawn in with the head far back, beak straight up and crest flattened against the back. Her feathers appeared to be ruffled as tho to emulate a dead snag, and she held this position for nearly five minutes, i.e., until the hawk left. Birdlife all about remained quiet as long as the hawk was present but the moment he left, several Tufted Titmice began their scolding notes and flew across the clearing in front of me. From her position behind the tree, the Pileated could not see the hawk leave but she must have realized from the smaller birds' actions that the danger was past and she promptly resumed working the tree.—WILLIAM DALE YAMBERT, Fountain City, Tenn.

THE SEASON AT MEMPHIS.—A rainy winter passed into a rainy spring and thundershowers are now more frequent than usual. Vegetation was several weeks ahead of the average and mild weather prevailed for the second straight season. However, spring arrivals were later than usual and the early species were represented by few individuals. About as expected; Lakeview, Miss., Mar. 9, Lesser Yellowlegs, 30; Greater Yellowlegs, 2; Pectoral Sandpiper, 3. On Mar. 23, 150 Pectorals were seen and new arrivals were Shoveller, 30; Blue-winged Teal, 38; Sora, 1 and American Bittern, 1. A Ruddy Duck was also there and Wilson's Snipes numbered 25 compared with 2 on the 9th. A Leconte's Sparrow was also seen on the 9th. Earlier than usual were a White-eyed Vireo and a Chuck-will's-widow found Apr. 2 in Overton Park by Miss Davant and Mrs. Coffey, and a Broad-winged Hawk seen there on Apr. 5 by David Johnston of Atlanta and on following days by others. On a trip out N. Bellevue to Wolf River on Apr. 7, a Horned Grebe was seen—the first at Memphis, other records being in Mississippi—and 12 Fish Crows. At "Coffey Grounds" on Apr. 21 I saw my first of the season Catbird, Blue-headed Vireo, Indigo Bunting (others a week or more later), and Lincoln's Sparrow. A Virginia

Rail was brought April 20 by a boy; it had evidently been struck by a car and died soon afterwards. Robert Tucker made it into a study skin for the collection of Mr. Ganier. This is the second one picked up injured in the city. An earlier bird, in the Zoo, came from this tri-state area but no record of the locality had been made. Lakeview, Miss. records are Apr. 25, May 2, and May 3, 1934 (MIGRANT, 1936:37), and Oct. 6, 1940 (1940:103). Continuing on Apr. 21 with Tucker to Five Points, where two Swainson's Warblers and other warblers were heard and with the John Ponds to Lakeview where an Osprey was seen. A Mourning Warbler was heard singing in our back lot on May 10 and 11. At late as June 15, four Goldfinches were heard nearby.—Returning transients noted July 21 were 5 Upland Plover at the Municipal Airport where the species is remaining and—at Lakeview—Least Sandpiper, 7; Bank Swallow, 6; and Tree Swallow, 2.—In early July the Barn Swallows had a nest under a wood bridge at Shelby (penal) Farms where a nest was recorded in 1941 and 1942 as our No. 2 site (1941:59). The No. 1 site, towards Whitehaven, used from 1936 to 1940 (1936:69), was visited in May and July; no swallows were seen but a well-preserved nest indicated the site was used in 1945. It was not used in 1941 and 1942, our last previous visits. David Johnston reported a Barn Swallow and a Horned Lark near the Millington naval base in July and we saw a lone Barn Swallow July 28 north of Raleigh.—In the vicinity of Coffey Grounds several pairs of Baltimore Orioles, Orchard Orioles, and Warbling Vireos are found each summer but only about one pair of each was present this year and these nested off our premises. The Sparrow Hawks here have been much in evidence and have been raiding Robin nests for young birds. Raids on a porch nest and a rose trellis nest were witnessed by a neighbor and periods of noisy confusion in the tops of several elms indicated tragedy striking there. However, in early August, over a hundred Robins, mostly first and second broods, were seen on nearby lawns in the evening, more than ever noted before.—The first Maryland Yellow-throat appeared April 7 near Snowden School. Often the first record has been on our rear lot but the first Yellow-throat there this season did not appear until May 5 and it remained with its mate to nest. The reason for its mention here is that the singing male was a Northern Yellow-throat, having the song typical of the birds at Nashville and Iuka (Miss.). This hypothesis is not acceptable to most ornithologists but if a collection of song recordings could be made in the separate ranges of the Mid-South we believe that in this case respective points of difference and similarity would be more readily apparent in the songs than in minor details of plumage. The song of the race at Iuka and northeast has always seemed strange when we first hear it. It resembles the Carolina Wren rhythm more than that of our lowland (Vicksburg to Reelfoot) birds.—BEN B. COFFEY, JR., 672 N. Belvedere, Memphis 7, Tenn.

COURTSHIP BEHAVIOR OF WHIP-POOR-WILLS.—An old table is just outside the east window of my cabin in the Glades. Often lately just at dusk, a Whip-poor-will has come to this table and settled in about the same spot and given his call. I can hear the "*chuck*" which goes with each "*whip-poor-will*" and can see the bowing motion of its head. On other

occasions he has sat for some time, springing into the air two or three times for an insect before moving on to another spot. On his visit of June 15th he had no more than given four calls, and I had taken my stand near the window, when a female flew in and settled near him. No more calls after this but his chucking was continuous and soon he started a dance. He would strut back and forth before her, keeping his tail feathers spread and stretching out the feathers of first one wing and then the other as though to display the handsome patterns of their brown markings. Meanwhile, his head was kept bobbing up and down with guttural "chucks" given at each bob, and the outer tail feathers showing pure white in the semi-darkness. The female made no noise, moving along the table twice before flying away with the male close behind her.—MRS. JUANITA ALLEN, Gatlinburg, Tenn.

NOTE:—This was indeed an unusual experience. In Bent's Life Histories of N. Amer. Birds, there are a few such additional observations.—ED.

SWIFTS ATTRACTED BY SMOKE.—On the afternoon of August 5th, 1946, at 5:45 p.m. (Cent. std. time) I observed a group of perhaps a dozen Chimney Swifts (*Chaetura pelagica*) engage in an interesting behavior. I was on my way into the Smyrna Army Air Field mess hall, when I noticed a Swift hovering near the top of the fifty foot high mess hall smoke stack while others wheeled about in wide circles at lower altitudes. The birds would climb, usually one at a time, almost to the top of the stack then hover, in the manner of a Sparrow Hawk, a foot or so to the lee of the stack and just below the black plume of coal smoke that was spewing out. As soon as one bird left its position at the top of the stack, another would replace it. Occasionally two or three Swifts at a time could be seen hovering just under the smoke. The performance was repeated by the birds many times during the several minutes I watched. I did not re-observe this strange behavior when I left the mess hall a little while later, as it was dusk and the Swifts were preparing to enter the chimney of a nearby barracks where they undoubtedly roosted for the night.—CPL. PHILIP S. HUMPHREY, Army Air Base, Smyrna, Tenn.

NOTE.—Your Editor once observed (MIGRANT, 1934, 5:28) Swifts flying in and out of "thin" smoke above a chimney at mid-day and concluded at that time that they were attracted by the warmth. This was about noon on April 22, 1934, during a drizzling rain when the day was raw and windy. Since such conditions did not obtain at the time of Mr. Humphrey's observations, another reason must be sought. Perhaps the nesting season had left the birds infested with parasites and that they hoped to abate the annoyance by literally "smoking them out." A bit later, during the course of their normal practice of roosting in chimneys, their plumage would be permeated with the fumes of well smoked soot with perhaps a similar effect accomplished. Further observations and reports would be of interest.—A. F. G.

A CRESTED FLYCATCHER'S BROOD.—Shortly after the first "wheep" of the Crested Flycatcher sounded from a tall tree on April 18, I put up a nest-box that Mr. H. P. Ijams had made for me, hoping but not too greatly expecting that the Flycatchers would find it. The box was cylindrical in form, about 5" in diameter and 10½" long, affixed horizontally

against a tree some 15 feet from the ground. The 2" entrance hole was in the center of the end. On May 17, a pair started to build a nest. They were very noisy and seemed not to mind our proximity on the porch and in the garden. Incubation started about May 27 and sometime later the young "wheeps" could be heard in the nest.

On June 16, I heard a commotion and saw both Flycatchers pursuing a Sparrow Hawk from the nesting box. It alighted on our mail box about 200 feet away from the nest and then immediately resumed its flight across the street with the Flycatchers attacking it. On the pavement below the mail box were two nestling birds. They were covered with blue-grey down and the short wing and tail feathers were of the same color. As they appeared to be uninjured, I enlisted the help of a small boy to replace them in the nesting box and soon the parent birds were taking in food. The next evening, my husband and I again heard the calls of one of the young at some distance from the nest and finally found it on the ground among the leaves. We replaced it quickly but, while eating dinner on the porch, saw it or another tumble out of the entrance hole to the ground below. We put it back, observing that the nesting material had raised the floor level even with the entrance hole. Next morning, we put in a new end piece with a hole provided near the top. This necessitated having the box on the ground for ten minutes or more, turning it end for end and replacing the nest material along with the three youngsters, all of whom seemed to be quite healthy. The parents made considerable protest but immediately resumed feeding and on June 23 the young left the nest. Considering all of their adventures and misadventures, we came to the conclusion that young "wheeps" are very durable.—MRS. R. A. MONROE, 3345 Tugaloo Dr., Knoxville 16, Tenn.

CRESTED FLYCATCHER DESTROYS CATERPILLARS: It is generally believed that the Cuckoos are about the only birds that will attack tent caterpillars and remove them from their webs. It was of interest therefore to me when I witnessed this being done, on July 14, 1945, by a Crested Flycatcher (*Myiarchus crinitus*). The web was about midway up in a large black walnut tree at the extremity of a limb and appeared about ten inches in diameter. The flycatcher would alight on top and seize the "worms" by probing within or by probing the sides while suspended in flight after the manner of a hummingbird. During the ten minutes I watched, the bird returned four times; after each visit flying back to some large trees a hundred yards away where there may have been a brood of young. The caterpillars were small grey wooly ones, about an inch long. On each visit, the bird seemed to secure several of them and it is probable that it finally rid the tree of the pests.—ALBERT F. GANIER, Nashville, Tenn.

The competition for poems about birds, conducted by Mr. Robert Sparks Walker of Chattanooga, was recently concluded after the submission of more than 3,000 poems about birds from 1,800 authors. Mr. Walker hopes to have the best of these published in book form and no doubt the receipt of additional poems would be acceptable.

NOTES, HERE AND THERE

The American Ornithologists Union will hold its first full Annual Meeting since 1942, on September 2-5, in Champaign-Urbana, Illinois.

Dr. Ira N. Gabrielson, 56, Director of the U. S. Fish and Wildlife Service since 1935, has retired and was succeeded by Albert M. Day, his assistant. Dr. Gabrielson, a native of Iowa, has always been an active ornithologist.

To Mr. Henry O. Todd, of Murfreesboro, we are indebted for the cut of the oddly located Chimney Swift's nest.

STATE OFFICERS, TENNESSEE ORNITHOLOGICAL SOCIETY

At the annual meeting at Nashville, May 5, 1946, the following officers were elected and will assume their duties as of July 1st, 1946.

PRESIDENT: Dr. Lee R. Herndon, 1533 Burgie Place, Elizabethton.

V-PRES, WEST TENN.: Lawrence Kent, 1896 Cowden St., Memphis.

V-PRES., MIDDLE TENN.: Harry C. Monk, 406 Avoca St., Nashville.

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EDITOR-CURATOR: Albert F. Ganier, 2112 Woodlawn Drive, Nashville.

TREASURER: Alfred Clebsch, 838 Gracey Avenue, Clarksville.

SECRETARY: Luther F. Keeton, 75 North Cleveland St., Memphis.

The Editor was elected by the Board of Directors and accepted with the request that a successor be chosen at the close of the present year.

— EDITORIAL —

THE ROLE OF THE UNUSUAL

Apparently there is a universal appetite among readers of all publications for happenings out of the ordinary. While this is found in its most pronounced form in newspapers, yet we find it in more conservative form even in scientific journals. Records of the unusual presuppose that the reader is acquainted with the orthodox and that record of any variation from it will be received with more than ordinary interest.

The pages of this little journal contain such records in nearly every issue; for example, the wintering of the Evening Grosbeak in our State and described in our last issue or an unusual nesting of the Chimney Swift described in this. Some might take the position that our contributors should use our space to record the orthodox and thereby acquaint their fellow readers with the real-life histories of birds rather than the occasional happenings. While there are two sides to the argument, yet it must be borne in mind that in the numerous available bird books the everyday life histories of each species has been fully treated, at least for the region with which their authors are acquainted. In our particular region, however, adequate texts have not as yet been produced and we are still in the process of learning. We learn wherein our region differs by comparing its avian happenings with the accepted orthodox.

For example again, we have learned that while in Middle Tennessee the Sycamore Warbler nests in the orthodox sycamore, yet in our mountains it prefers the pine. Not so many years ago we did not know that the Long-eared Owl wintered so far south as Tennessee but in recent years we have

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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

piled up seven records and by now many conclude that it is a regular though rare winter resident. Since our first publication of the nesting of Cliff Swallows on a man-made concrete structure we have learned that these birds are rapidly adapting themselves to such locations and are now nesting under many of the river locks and on bridge piers. It was regarded as unusual that the Grosbeaks should come to us, to remain so long and in such numbers; let us hope that they will continue to do so in order that such reports will no longer be cast in the role of the unusual. Had Mr. Todd's writeup of a Swift's nest been published several hundred years ago, it would probably have told of the nest being built in a *chimney* rather than in the orthodox hollow tree.

In migration too we have learned much by recording the unusual. In the earlier years of this Society there were a number of "out-of-line" first dates passed in by our members, some of which may have caused the lifting of eyebrows. Ten years ago when the writer compiled (MIGRANT, 7:6) the twelve earliest arrival dates for our fifty best known spring migrants, he found that most of the gaps had been pretty well filled in and that the average had moved well upward on the calendar. Palm Warblers, earlier classified as transients, have been found through numerous winter records to be regularly expected at that season and in West Tennessee a similar status may yet have to be accorded the Mourning Warbler.

A review of our columns would doubtless bring to mind dozens of similar examples but enough have been cited perhaps to illustrate. While discussing this topic, however, we would feel guilty if the impression had been conveyed that records of the unusual were at a premium. This might lead to careless identifications or to a lack of appreciation of the care we take to publish only well substantiated records. When in doubt, it is often well to consider the oft-quoted words of Shakespeare who wrote, in effect, that at least upon some occasions, "the wish may be father of the thought." The number of unusual records that come to any observer are almost always directly proportional to the number of hours spent afield and the years of experience that lie back of them.—ALBERT F. GANIER.

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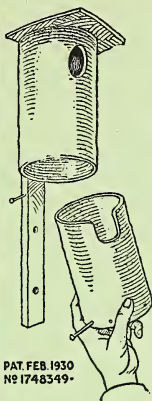
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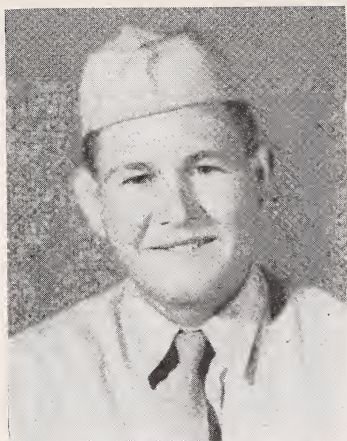
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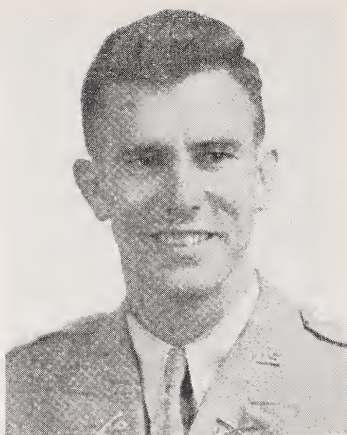
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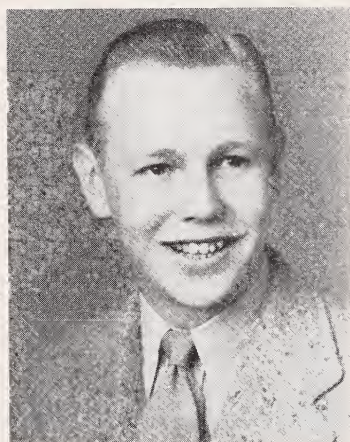
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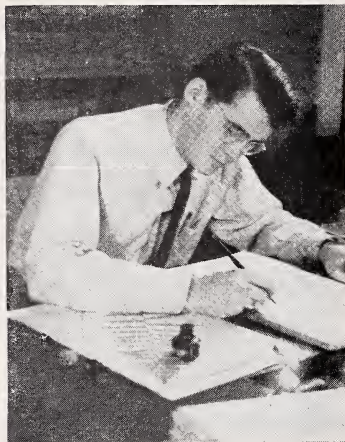
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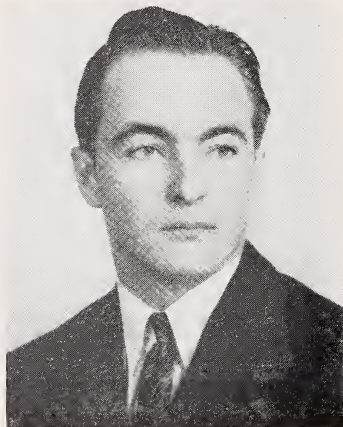
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NO. 3

BIOGRAPHICAL SKETCHES OF MEMBERS LOST IN THE ARMED SERVICES DURING WORLD WAR II

The membership of the Tennessee Ornithological Society has been sadly depleted as a result of the late World War (1941-1945) by the loss of eight of its splendid young members. It is not too much to say that among these young men, there were those who would have gone far in the development of ornithological study and in carrying on the work and traditions of this Society.

As a tribute to their memory and as a token of our appreciation for the supreme sacrifice they made in behalf of their country, we dedicate this issue of THE

MIGRANT to their memory and print below a biographical sketch of each. Our frontispiece portrays six of these eight; unfortunately, we have been unable to secure suitable pictures of the other two up to time of going to press.—ED.

AUSTIN WILLIAM BURDICK (1922-1944)

Austin W. Burdick, one of our most admired and most promising young ornithologists, was killed in action in Belgium on December 18, 1944. At that time he was an infantry ammunition bearer, and met his death when he returned in the face of enemy fire to aid three fallen comrades. For this action he was posthumously awarded the SILVER STAR.

Born in Memphis, Tennessee, on November 23, 1922, Austin showed an early love for natural history by bringing home many kinds of animal life that he found in his neighborhood. However, it was not long until he discovered his real field of interest—the study of birds, an interest that remained with him throughout his life. When he became old enough, he joined the Boy Scouts and developed quickly into a capable bird student under the guidance of Mr. Ben B. Coffey. Throughout the following years, his devotion to ornithology increased, and while still in high school, he learned to prepare bird skins for scientific study and also to mount birds. Here he showed an artistic touch which, combined with a natural talent, enabled him to produce beautiful bird skins.

After graduating from high school in 1941, Austin entered Louisiana State University where he studied ornithology under Mr. George H. Lowery. He spent the summer of 1942 in the State of Washington studying and collecting birds. His paper covering the results of this work was published in *The Condor* (Vol. 46, pp. 238-242). Also he had the opportunity to observe and collect Mexican birds when he visited that country in January and February, 1943, as part of a Louisiana State University expedition. He left college in May, 1943, when he was inducted into the Army.

Austin Burdick was always an inspiration to those of us who were associated with him in the field. He was eager to pursue his favorite work wherever it led him, and his untiring energy will never be forgotten by those who knew him. He was an excellent field man and collector, and consistently showed up with the prize specimen. Austin's enthusiastic desire to secure new specimens is best evidenced by fifteen birds that he collected in England with a sling shot and sent to the Louisiana State University Museum. During the few weeks when he was stationed in that country any type of field work, let alone any form of collecting and pre-

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paring of specimens, was done only under the greatest of difficulties.

Many notes and articles written by Burdick may be found throughout the pages of THE MIGRANT dating from the time that he joined the T.O.S. in 1938. He added to the Tennessee list one new species, Western Meadowlark, *Sturnella neglecta*, (THE MIGRANT, V. 14, p. 77), and probably several subspecies, besides contributing much valuable general information on Tennessee birds. He was also an Associate of the American Ornithologists Union to which he was elected in 1943.

Austin's tragic and untimely death occurred long before he reached the peak of his personal achievement. But, even so, he left much to be remembered by ornithologists. His collection, numbering almost nine hundred specimens, is safely deposited in the Louisiana State University Museum of Zoology, and his writings are filed in the printed pages of ornithological journals, but by those of us to whom he was a personal friend, his generous character and spirit of good fellowship will always be missed and remembered.—ROBERT TUCKER.

CLARENCE E. COLLIER, JR. (1924-1945)

Clarence E. Collier, Jr., known to his friends as "Buddy," became a member of the T. O. S. when he was twelve years old and kept a lively interest in ornithology and all outdoors until his death at the age of twenty-one. Most of his short span was lived in Clarksville, Tennessee, where after finishing high school, he attended Austin Peay State College. His gift of observation and love for nature, combined with strong body, straight character and happy personality, gave joy and high hopes to his friends and teachers. In April, 1943, he volunteered for the army air corps and two years later he was ready to go, a fighting pilot into the Pacific theatre of the war. Shortly before he was scheduled for embarkation, he drowned while swimming in Waukulla Springs, Florida, near Dale Mabry Field, on August 5th, 1945.

In bird study, he took part in Chimney Swift banding, field expeditions and in nesting studies. With the aid of linemen's spurs, he climbed the largest trees in order to gain first hand knowledge of the nests of Red-tailed Hawks, Red-shouldered Hawks, Great Horned Owls and other species. He was an expert and careful climber and added much to the knowledge about such large birds and their nests in the Clarksville area.

As he matured, there shown through his nature a gentle understanding for life in all its forms and this, as we look back, gives a measure of completeness to his own.—ALFRED CLEBSCH.

FREDERICK WILLIAM FIEDLER, JR. (1921-1944)

The son of Dr. and the late Mrs. F. W. Fiedler and a lifelong Memphian, Fred was born here January 29, 1921. Shortly after his twelfth birthday he entered Boy Scout Troop 29 at the Evergreen Presbyterian Church of which he was a member. Reaching Eagle Scout rank on March 21, 1935, Fred was an enthusiastic camper with an intense devotion to Kamp Kia Kima at Hardy, Arkansas. He served on the staff there in 1937. As an Eagle Scout he retained a special interest in birds and joined the Memphis chapter of our Society in 1940, having participated in Christmas counts 1935-1940. Fred also assisted in banding Chimney Swifts and herons and on field trips. In April, 1935, he reported the first Starlings recorded nesting at Memphis (1935:34).

After graduating from Central High School, Memphis, in 1938, Fred spent the summer at the University of Mexico and entered the University of Wisconsin that

fall. After a year at Memphis State College and another back at Wisconsin, he entered the University of Tennessee Medical School in September, 1942. Entering the Army in January, 1943, he later attended Fort Riley and in August was commissioned a Second Lieutenant in the mechanized cavalry. Going overseas June, 1944, he spent about a month at Glastonbury, Somerset, England. He joined the 2nd Cavalry Regiment during the Brittany campaign and commanded a platoon in Troop G. During an attack outside a wood between Montargis and the Loire, another platoon leader was killed, and taking command of both platoons, Lt. Fiedler led them, defeating the Germans on their front. At the moment of victory he was mortally wounded. For this action at Les Ormes, France, August 24, 1944, he was posthumously awarded the Bronze Star.—BEN B. COFFEY.

LEWIS FRELAN GODDARD (1924-1944)

Lewis Frelan Goddard was born May 9, 1924, at Procter, Vermont, the son of Mr. and Mrs. Carlyle J. Goddard, of Fountain City, Tenn. He joined the Knoxville Chapter of the T. O. S. on January 1st, 1940, and actively participated in its meetings as well as its mid-winter and spring census lists. He assisted with banding Chimney Swifts under the direction of Prof. Henry Meyer, engaged in hiking activities in the Great Smoky Mountains National Park and was a member of the T. O. S. Field Week party which made a bird-life survey of the Falls Creek State Park in 1940. To those of us who knew him, it is with pleasure that we recall some of the highlights of his field work, such as his wintering records of a flock of White-crowned Sparrows, the Pine Warbler, the Brown Thrasher, the Woodcock, and others.

Frelan enlisted November 15, 1942, receiving his training for the armed services at Lexington, Ky., and Camp Crowder, Mo., following which he volunteered for duty in the Office of Strategic Services, in October, 1943, and after special training at Washington, D. C., he was based at Peterborough, England. During his off-time in England he studied the birds of that country, purchasing the best books obtainable to assist him with identifications.

In the spring of 1944, he was detailed to North Africa as a base from which to organize the French Marquis of southern France and from this base was parachuted into France on various occasions. As first sergeant and radio operator, he composed the American member of the "Jedburgh" radio unit which communicated with headquarters from hostile soil. His compatriots in this venture were an English army captain and a French army lieutenant. He met his tragic death while engaged in a parachute jump north of Marseilles (near Luynes), France, on August 7, 1944.

Frelan was of a sunny, enthusiastic disposition, never a laggard and always good company for those who were with him on bird-study or other out-door activities.—W. M. WALKER.

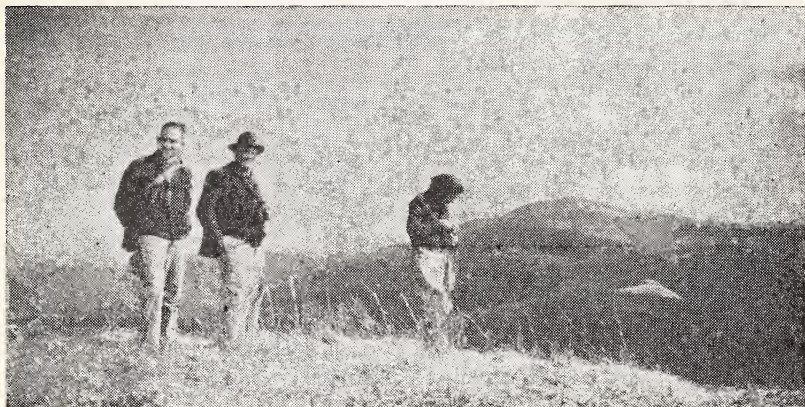
EARL O'DELL HENRY (1911-1945)

Earl O'Dell Henry was born November 8, 1911, at Clinton, Tennessee, the son of Mr. and Mrs. H. N. Henry. The family later moved to Knoxville, where Earl graduated from Knoxville High School in 1929. At an early age he showed an unusual interest in bird study. He became an accomplished imitator of birds and was often called upon for bird talks and imitations.

While still in his early teens Earl became interested in taxidermy and began to build up a fine collection of mounted birds, specializing in waterfowl and birds

of prey. This collection, now in temporary possession of the University of Tennessee, came to include a number of rare species, and his technique was said to be very fine. References to some of the birds preserved by him will be found in the Knoxville and Memphis "Season" notes in *THE MIGRANT*.

Earl was for a number of years one of the most popular and dependable members of the Knoxville Chapter. He served as Vice-President for East Tennessee in 1939-1940 and Vice-President of the Knoxville Chapter in 1941. The most vivid picture many of his friends retain in their memories is of him on a field trip, in corduroy breeches and boots, with his binoculars swung around his neck.



Dr. Earl Henry, Brockway Crouch and Miss Robinson on Siler's Bald, 1938 X-mas bird census

Earl graduated from the University of Tennessee in 1935 with degrees of B.S. and D.D.S. He spent four years in the Dental School at Memphis and while there became an active and much esteemed member of that Chapter, where his many talents, amiable disposition and considerate nature quickly made their impress. While in Memphis he added many birds peculiar to that locality to his collection. He served as Chapter President there during his senior year in Dental School.

After entering the practice of dentistry in Knoxville, Earl worked less on taxidermy, although continuing to care for the collection and adding to it occasionally. His interest in bird study continued and he began to paint, again concentrating on waterfowl, and was well on the way to building up a fine collection of paintings when he entered the Navy.

He entered the Navy's Dental Service as a Lieutenant (j.g.) February 12, 1942. He served a year at Parris Island, S. C., and was stationed at Annapolis for fifteen months. Promotions came rapidly, and in May, 1944, he went to sea as a Lieutenant-Commander on the cruiser Indianapolis. He died in the tragic sinking of that ship between Guam and Leyte on July 30, 1945.

Commander Henry was married October 20, 1941, and is survived by his wife, the former Jane Covington, of Mayfield, Ky., and a young son, Earl, Jr., in addition to his parents.—JIM TRENT, JR.

CONRAD HASTON JAMISON, JR. (1922-1945)

Conrad Jamison, Jr., was born at High Point, North Carolina, on July 10th, 1922, the son of Mr. and Mrs. Conrad H. Jamison. Following graduation from high school at Nashville, Tenn., and from Peabody Demonstration School in 1940, he entered Peabody College and completed his course there, graduating with a

B.S. degree in August, 1944.

Having previously planned for a course in medicine, he had an opportunity to enroll in the Vanderbilt Medical School but the desire to aid his country in its armed forces pulled more strongly and he decided to enter training at once, which he did on August 28, 1944. Basic training was taken at Camp Blanding, Florida, at which camp there then followed training in the Intelligence and Reconnaissance School. He arrived in France, January 22, 1945, and with a training that was all too short, was placed in the 94th Division of General Patton's Third Army. On February 25, 1945, he was killed in action after crossing the Saar River near Ockfen, Germany.

When a boy of twelve, Conrad had joined Boy Scout Troop 27 and progressed in this activity until he became an Eagle Scout, September 8, 1937. Attending Camp Boxwell near Nashville for several years thereafter, he was instructor for the bird-study merit badge. As a member of the Vine St. Christian Church, he was active in its young people's work.

Conrad joined the Nashville Chapter, T. O. S. during 1937, became one of its most active and consistent observers and served for a term as Secretary. His interest covered all phases of bird study, including migration, feeding habits and nesting. He became particularly interested in the study of Barn Owls and discovered more nesting pairs of these birds about Nashville than anyone had thought possible. With his co-worker, William Simpson, they summarized their findings in *THE MIGRANT* for 1942, p. 57 and 1943, p. 43. Other contributions to *THE MIGRANT* may be found in 1941: 23, 46, 71, 73; 1942: 12, 38, 42 and 56. Still other activities were bird-banding, including assisting with thousands of Chimney Swifts, and the study of birds of prey, including rearing them and training some for falconry. Talented artist that he was, he made numerous drawings and paintings of birds from life and during his course at Peabody College, prepared a number of drawings of ferns, to illustrate articles on this subject by Prof. J. M. Shaver, and which were published in the *Journal of the Tennessee Academy of Science*. The portrait shows him engaged in this work. The writer of this sketch quite frequently had the pleasure of Conrad's company on trips afield and found him a tireless and most congenial companion. Quiet, dependable and of a lovable disposition, his loss was a sad blow to the host of friends he left behind.—ALBERT F. GANIER.

JOSEPH THORNTON MASON, III (1923-1945)

The White Station community, just east of Memphis, was the home of Joseph Thornton Mason, III, who was, however, born in Memphis, May 31, 1923. He joined its Boy Scout Troop 21, April 20, 1936, and became an Eagle Scout October 12, 1939. With a fellow member, Austin Burdick, he served as an instructor in bird study for Memphis Scouts. Enrolling in the Sea Scout Ship "Idlewild" on March 9, 1940, Joe also became an Assistant Scoutmaster of the White Station troop April 30, 1941. As a leading Scout, his principal interest was bird study and in 1938 he joined the Memphis Chapter of the Society. He was an active and loyal participant in field work and operated a banding sub-station at the family dairy on Walnut Grove Road. Two of his unusual records appeared in *THE MIGRANT*: "Harris's Sparrow in Shelby County" (1941:41)—the second Tennessee record, trapped and banded; and "Pigeon Hawk at Memphis" (1941:39)—the first record for the Memphis area. Here his signature appears Joe T. Mason, Jr., as it does later on his Army records. During four seasons he took part in over nine Christmas bird counts and assisted in banding herons and Chimney Swifts.

After graduating in 1941 from Central High School, Memphis, where he was a member of the National Honor Society, Joe entered Texas A & M College that fall to study petroleum engineering. While there he found time to write us of his experiences with western birds and to plan for the next Christmas Count back home. A year later he was enrolled in the Army, remaining in the school but taking basic training at Camp Roberts, California, June 1 to September 25, 1943. The final departure was for the Infantry School, leading to his commission on June 6, 1944. Assigned to Company M and later as executive of Company K of the 253d Infantry, Joe joined the 63d ("Blood and Fire") Division at Camp Van Dorn, Mississippi. On December 8th the Division landed at Marseille and later joined the Seventh Army in its Saar offensive. Joe was promoted to first lieutenant just before he was reported killed in action February 18, 1945, in Germany, near Saarguemines. Burial was at Epinal, France, in the Vosges. The loss of tall, manly Joe is deeply felt.—BEN B. COFFEY.

BEN CARLYLE WELCH, JR. (1924-1944)

Son of Mr. and Mrs. Ben C. Welch of 1946 Snowden Avenue, Memphis, and a sergeant in the Rangers, Ben Carlyle Welch, Jr., was killed in action at St. Die, France, October 30, 1944. He was born at Union City, Tennessee, September 16, 1924, but became a resident of Memphis shortly afterwards. At Central High School, Memphis, from which he was graduated in 1942, Ben was a quarterback on the football team and ran the 440-yard dash and in the mile relay on the track team. At the University of Tennessee he played basketball, entering the College of Agriculture in the fall of 1942, with plans for forestry as a career. He left school to enter the service in April, 1943, and spent some time at Camp Croft, S. C., as an instructor in an infantry heavy weapons company. At the end of one problem out in the brush he was personally commended by Lt. Gen. Leslie McNair, then Commanding General of the Army Ground Forces, who had been an observer unknown to the men. In January, 1944, Ben went overseas by way of Casablanca, Oran, and Algiers, and reported adding several birds to his life-list. A letter of March 25 announced his presence in Italy "bearded and barbarous," and undergoing final training. He entered combat as a machine gunner at the Anzio beachhead, serving with the 30th Infantry Regiment of the famed Third Division from there until they entered Rome. Volunteering for the Rangers he was with them and attached still to the Third Division during the invasion of southern France, the rapid thrust northward, and patrolling behind German lines during the cold and bitter campaign in the Vosges.

Just eight years earlier, Ben had joined Boy Scout Troop 44, October 31, 1936. He advanced rapidly in Scouting and became an Eagle Scout April 21, 1938. On March 9, 1940, he joined the Sea Scout Ship Idlewild along with Austin Burdick, Jr., and Joe Mason, Jr., and under T. O. S. member Fred T. Carney. Ben was an active camper and served as instructor in Bird Study and other Scouting subjects. He joined the Memphis T. O. S. Chapter in 1938 and assisted in each Christmas bird count and in field days thereafter until he entered the service. Swift and heron banding were other activities as a member of the Society and of the First Memphis (Cranetown) Rovers. Records of his field trips were faithfully kept and made available to others. He haunted Overton Park during spring migration and visited Hardy, Arkansas, and the Gulf Coast. His cheerfulness and enthusiasm are greatly missed.—BEN B. COFFEY.

SOME BEWICK WREN NESTING DATA

By AMELIA R. LASKEY

In fifteen seasons (1928, 1934, 1935, and 1937-46), I have accumulated some data on 52 nests of the Bewick Wren (*Thryomanes bewicki*) in the area about my home, Warner Parks, and the intervening five to six miles. These nests were located in the following sites: metal newspaper cylinders on posts at roadside, 13; mail boxes on roadside, 12; wooden bird boxes, 11 (including one stored on a shelf in a garage); on ledge of porch or similar protected place, 7; in gourds under eaves or on porch, 3; in crevice of building, 2; and in addition, one was located in each of the following four places: hat, fastened to the inside wall of a chicken house, cardboard cylinder fastened to side of a house; within a sack of peas stored in a barn, a horizontal drainage tile in a park terrace. In two seasons, Bewick Wrens and Carolina Wrens (*Thryothorus ludovicianus*) nested successfully in boxes on opposite ends of a porch about 25 feet apart. No conflicts were seen between the pairs.

The earliest of the 52 nests contained four eggs on March 30, 1942 (complete set 7), indicating the first egg was laid March 27. The latest nesting record is a brood of five young about nine days old on July 20, 1938, the last egg being laid about June 28.

The number of eggs laid is known for 22 of the 52 nests. There were three sets of 8 eggs (all April nests) with 6, 7, 7, eggs hatching and the 20 young surviving (83 per cent of the number of eggs laid). There were ten sets of 7 eggs (March to May). One of these nests was not followed, but the other 63 eggs produced 31 young (49 per cent). In addition, seven young were fledged from the drain pipe but the number of eggs in the clutch is not known. There were seven nests with 6 eggs, and two with 5 per set. The total number of eggs laid in 21 nests is 139, averaging 6.6 eggs per nest.

From the 139 eggs, 79 young were fledged or 56.8 per cent of the number of eggs laid. Six of the nests were entirely unsuccessful; a snake robbed one nest, the incubating bird was taken by a cat in one, in another, she was found dead, and from a fourth nest she disappeared. In two May nests, no eggs hatched, although there were well developed embryos. These nests were in metal roadside boxes that were exposed to the sun in very hot weather producing excessively high temperatures inside of the boxes.

Because most of the nests were built so far back in small, dark recesses, it has been difficult to get exact data on incubation and nestling periods. In one box, the set of six eggs was completed on June 27 and the first egg was hatched by 10 A.M. July 9, but no further data were obtainable as the contents of the nest were taken by a predator before my visit on the following morning. In another nest, containing six eggs, laying dates unknown, one nestling was hatched on the morning of May 8, but the sixth egg did not hatch until the afternoon of May 9. The young left the nest by May 22. On May 21, at 10:30 A.M., one of the brood had its head out of the entrance and two stood on the backs of others. Adults were still carrying food into the box on the morning of May 22, but all young had gone at my afternoon visit. In this nest, therefore, the nestling, or nest-occupancy, period was thirteen to fourteen days.

In May, 1946, there was an unusual case of Bewick Wrens usurping the nest site that was already in use by a pair of the larger Carolina Wrens. The Bewick pair had built in a mail box at the roadside about 150 feet from our mail box which the Carolina pair had taken sometime previously. On May 18, the property

owners removed the nest of the Bewick Wrens. Early on the morning of May 19, the Carolina Wren laid the fourth egg of her set in our box. This apparently did not complete the set for she did not start incubation. At 1 P.M. (C.D.T.) that day, I saw the Bewick pair diligently carrying loads of nest material into our mail box. Investigation revealed that they had a nest complete, except for lining, completely sealing in the eggs of the Carolina Wren. The new nest was built against the side entrance of the first nest. I watched spasmodically all afternoon and failed to see the original owners, but heard the male in songs occasionally in other locations about our home. Later, the replacement nest was found some 250 feet south.

The Bewick Wren nest appeared complete on May 20; the first egg was laid May 23 and the set of six completed on May 28. Two of the eggs had the heavy pigmentation in the form of a wreath around the small end instead of around the large end in the normal manner. Incubation began after the laying of the last egg, although she may have occupied the nest at night during the laying period.

Between May 30 and June 10, I spent 11.5 hours watching the pair at the nest box. From the beginning of their occupancy, both pairs had used the mail slot at the entrance, therefore, to protect the birds from interference, the door had been immediately wired shut and a substitute box placed for the mail. When incubation began, the female Bewick Wren had regular routes for leaving and re-entering the box. Usually, she flew south on her periods off the nest. As she flew out of the slot opening, she curved to the right, around the front of the box, to the east side, flying southward. Upon returning, she always landed on a scroll-work iron bracket below the box, then, flying upward on the west side of the box, she made a right turn and into the opening. Her trips were made in silence except once or twice when she used the rasping notes, apparently directing them at a person.

During my watch periods, I saw the male enter the box seven times. On five of these trips, he landed on the top of the box first before flying down to the slot and entering; on the other two trips, he flew directly into the box without stopping first. On five (possibly six) of his trips (May 30, June 2, June 5), he brought food. Twice he delivered it to the female, but she was absent on three of his visits. The first time that he failed to find her, he must have swallowed the spider himself for he came out without it; the other two times he came out with the larva still in his bill and flew off with it. He was silent on some of these trips but the third time that she was absent, he gave one musical call-note as he flew off with the food. Once when delivering food to the female in the nest, he gave the musical call before entering; on the other food delivery, he used the rasping scold many times, from a high perch behind the box, before entering. On June 2, just a half minute after the female had returned to the nest, he arrived from the south to the top of the mail box, leaned over the front edge to peer into the slot, then hopped about the box some seconds before returning to the front edge and leaning far over in an attempt to look inside. He was silent while at the box but sang five songs in a half minute after leaving. His singing occurred at some distance from the nest throughout the incubation period; I failed to see any correlation between his singing and the movements of his mate to or from the nest. His bringing food to her during her absence seems to indicate that she foraged alone, at least part of the time. In 1928, a pair of Bewick Wrens occupied a gourd on our porch. The male brought food to the incubating mate but often announced his arrival by stopping on the flower box and singing one song before proceeding

to the nest with the food.

In the 11.5 hours of daylight observation of the 1946 nest, the female spent only 37 per cent of the time incubating. In the 8 complete periods on the nest occurring during my watch, the time on the nest varied from 3 to 24.5 minutes (average 17.5 minutes). Among the partial periods (meaning she was on the nest when observations started) she stayed 41 minutes, plus. Her 9 complete periods off the nest varied from 12 to 63 minutes.

Doubtless weather conditions affect the incubation rhythm to some extent. During the first four days of incubation, with maximum temperatures of 79° to 84° F., in 192 minutes of observation on the third and fourth days, she spent 24 per cent of the time on the nest with 76 per cent off. From June 1 to June 6, maximum temperatures were 66° to 82°, with very cool nights for June. The U. S. Weather Report shows that on three of those twenty-four-hour periods, the departures from normal mean temperature were -12 and -13. During this period, I made observations on the 5th, 6th, and 10th days of incubation for a total of 314.5 minutes. She spent 53 per cent of the time on the nest and 47 per cent off.

But from June 7, the weather was abnormally hot with temperatures as high as 97°. The metal box, being in direct sunlight some hours during mid-day, must have registered well over 100°. On the 11th and 14th days of incubation, I watched for 141 minutes. She spent 23 per cent of the time on the nest (complete periods 3 to 20.5 minutes) and 77 per cent off (complete periods 14 to 63 minutes).

No eggs hatched. She incubated until June 13 (at least 16 days). Early on the 14th, when the eggs were found deserted, they were examined. One was sterile but the remaining five had large embryos, developed almost to the hatching stage but the excessive heat of the last days of the incubation period apparently was disastrous.

In two other metal boxes in exposed roadside situations, where the incubation of the two 7 egg sets was a few days in advance of the one in our box, three and four eggs, respectively, contained dead embryos. Another mail box, where nesting had begun in April, was highly successful. On May 18, 1946, the nest and seven well-developed nestlings were removed and brought to me, the report being that the postman and others failed to leave an opening for the parents on many occasions. There was one added egg in the nest and the young appeared to be about 12 days old but varied in development. One nestling made a short downward flight but the youngest still had most of its flight feathers in sheaths. They were placed, with the nest, in a tall, roomy box indoors and fed by hand. Two gaped immediately and the others soon responded to my hand. Larva-size pieces of soft-baked custard became a favorite food. They were attractive little birds, using the twittering notes as food calls, quivering the wings and begging with open bills as they hopped about my hand. After a feeding, the seven settled in a compact group in the corner of the box, heads facing the same direction. In ten days (May 29) they took food in their bills, sometimes even grabbing it from the feeding forceps. The following day, one wiped its bill after a feeding and two grabbed food from the bill of a third. By May 31, they had been moved to a large cage on a screened porch and were helping themselves to food from a dish, although all still begged from my hand. They used the perches in the cage freely for day-time rests and roosted there at night, perched close together, usually facing in the same direction. Heads usually were tucked in the scapular feathers at night but sometimes one or two slept with heads hanging downward. June 1, the rasping note was heard on two occasions. On June 3, the temperature dropped at night

to an unseasonable 54°. Although the cage was covered, one fledgling was found dead the following morning. At 7:30 P.M. (C.D.T.) June 6, I peeped under the cover; they had not yet tucked their heads in but were perched close with heads alternating backward and forward. June 12, in preparation for releasing them, the cage, without the bottom, was placed on the grass near the house. For a few minutes, they appeared to be shy of the greenery but soon were making short, experimental hops down to it from the perches. June 15, when the brood was reduced to five (one had died during a very wet period, although protected from rain), they were given their freedom. They scattered about the garden this bright day, their cheerful twitters being heard from time to time. In the afternoon, two were foraging in the vegetable garden about fifty feet from the cage. One of these flew about a wire mesh cage back there that was occupied by a baby rabbit, twice entering it through the large-size mesh. Two stayed in the little rock garden near their cage. All were tame to me, coming close to eat custard strips as I placed some on the ground. On June 16, three were at their cage, going in and out and perching on it. Two allowed me to pick them up. June 17, two still came to the cage often to perch and feed. They frequently perched there for many minutes. One quivered its wings and gaped to my hand but did not take the proffered food. That night, at deep dusk, both were in the cage but did not remain for roosting. One of these remained in the rock garden until dark and must have roosted there. June 18, only one came to the cage during the day, and at dusk, hopped about investigating crevices near the steps. This was the last appearance. None had started to sing the lovely little warbling songs of immature wrens. Their vocal efforts were restricted to the oft-repeated "tweet-tweet," accompanied by waving of the tail.

SUMMARY

In fifteen seasons, records of 52 nests of the Bewick Wren have been obtained in Warner Parks, about my home and the intervening 5-6 miles. These were built in metal newspaper cylinders (13), metal mail boxes (12), bird boxes (11), and lesser numbers in gourds, on ledges, crevices of buildings, hat, sack of peas, drainage tile. The earliest nest had 4 eggs on March 30 (complete set 7); the latest had five young about nine days old on July 20.

In 21 nests, the number of eggs laid is 139, averaging 6.6 per nest. Sets varied from 8 to 5 eggs. From the 139 eggs, 79 young matured to fledging age (56.8 per cent); six nests were entirely unsuccessful, caused presumably by snake, cat predation, disappearance of female, exposure to extreme heat in metal boxes.

One instance occurred of a Bewick pair usurping a mail box in which a Carolina Wren was laying her eggs.

In late May and June, 11.5 hours were spent in observing incubation rhythm at this mail box which was exposed to sunshine during mid-day hours. The female spent only 37 per cent of these daylight hours on the nest. Her absences were more marked during a period of high temperatures. Extreme heat occurred on the 12th, 13th and 14th days of incubation. The eggs failed to hatch; five of the six eggs in the clutch had embryos about ready to hatch. She incubated 16 days before deserting. Other details of incubation rhythm and temperature are given.

The male brought food to the nest five times during the observation periods, finding her absent on three of these occasions; twice he carried the larva away with him.

Some details are given of a brood of seven nestlings, raised by hand from May 18, approximately 12 days of age. In ten days, they began to pick up food. All

reached independence but two died later. The five young were given freedom on June 15. No effort was made to tame them, but they remained nearby for three days, the number decreasing gradually. On June 17, one still gaped and quivered wings to my hand, but ignored the proffered food. They all used the "tweet" notes but there were no attempts to sing.

GRAYBAR LANE, NASHVILLE, TENN.

OBSERVATIONS AT THE NEST OF A PILEATED WOODPECKER

BY PHILIP S. HUMPHREY

It is not often that one is confronted with ideal conditions for the study of the home-life of any bird. However, for the first home-life study I have ever attempted I was presented with the perfect situation. The nesting hole was some thirty feet up in a dead tree and easily accessible by means of a sapling up which the most inexperienced of tree-climbers could readily scale. Furthermore, directly opposite the nesting hole and only ten feet away from the nesting tree, there grew a large tree in which a blind could be constructed or a camera placed to record the nest-life of that striking bird, the Pileated Woodpecker.*

DISCOVERY OF THE NEST.—Before the nest was discovered, the woodpeckers were observed a few times in the vicinity of the nest during the latter part of March and the first week of April. These observations all took place in a rectangular area about ten acres in extent which was largely open hickory and oak forest with scattered low clumps of cedar.

On March 27, 1946, a three-inch hole, recently excavated, was found in a dead tree with only three limbs remaining. On the seventh of April it was discovered that this hole was being used by the woodpeckers. The nest was located in the dead remains of an unidentified species of tree some fifty feet in height. The hole faced due east and very little sunlight ever reached it through the canopy of leaves on neighboring trees.

The hole, thirty feet from the ground, measured three and a half inches wide by four and a half inches high, while the cavity itself was twelve inches deep from the lower lip of the orifice and seventeen and a half inches from the ceiling. An observation hole was cut after the young had hatched and it was found at that time that the cavity measured about seven inches wide at the level of this hole which was about one inch above the floor of the nest.

THE EGGS.—These were four in number, pure white, and glossy under their coating of filth from the floor of the nest-cavity. From the fact that two of the eggs hatched on the twenty-second of April and that the known incubation period is eighteen days it may be assumed that incubation began about the third or fourth of April. Two of these eggs failed to hatch and presumably they were infertile.

It is interesting to note in passing that at no time during the course of my visits to the nest did the adult woodpeckers show any inclination to attack me, nor did either of them remain in the near vicinity of the nesting tree once flushed from the cavity.

INCUBATION AND EXCHANGE PROCEDURE.—The nest was under observation for eleven hours during the last eight days of incubation. The female Pileated Woodpecker was in the cavity and presumably incubating the eggs for three and a half hours of that time, the male for two and a fifth hours and birds of undetermined sex

*Southern Pileated Woodpecker (*Ceophloeus pileatus pileatus*.)

for one and a fifth hours. To illustrate the procedure engaged in when the two birds changed places at the nest I include two excerpts from my notes:

April 17, 6:03 P.M.—The male woodpecker arrived at a tree approximately a hundred and fifty feet to the southwest of the nesting tree. A few seconds later he landed on the southwest side of the nesting tree about twenty feet below the hole. He rested there for several seconds and then commenced to climb. When he was half way up he started making low chirring noises which can best be described by the words "*wichew-wichew-wichew*." As soon as the male finished his call the female flew from the nest hole. The male stopped for an instant and then commenced to climb again. About six feet below the hole he sidled around to the eastern face of the trunk.

6:05—The male bird had reached the nest hole. He performed bobbing movements and then entered. The female could be heard feeding several hundred yards from the nesting tree.

April 21, 5:35 A.M.—Female arrived at a tree sixty feet to the southwest of the nesting tree. Tapped several times.

5:36.—Female landed on trunk ten feet below the nesting hole. Uttered chirring call six or eight times.

5:36½.—Male flew from the nest to the east.

5:37.—Female entered the nest hole after three bobs. Male at no time replied to mate's cries. Female did not continue calling after the male flew.

The exchange procedure was fundamentally the same as those described above practically every time that it was executed during the incubation period.

HATCHING, YOUNG AND GROWTH OF YOUNG.—The first indication that the young had hatched was a slight change in the behavior of the female when she entered the nest at 5:15 P.M., April the twenty-third. She entered the hole after three bobs, which was normal, but on the first bob she uttered one very low "*wichew*" call. Fifteen minutes later I climbed the nesting tree and found that the nest contained two young. I could feel their outstretched and gaping beaks when I reached my fingers deep into the hole. The young birds emitted frantic buzzing cries. Whether they expected feed or were just giving vent to their annoyance, I do not know.

On the afternoon of April the twenty-fourth I returned to the nest equipped with a hacksaw. I cut an observation hole in the north face of the tree and about eight inches below the nest hole. The lower lip of this hole was about one inch above the floor of the nest cavity. The square of wood I removed could be fitted back into the hole and tied by means of a rope around the tree. This sealed the cavity very effectively. The adult birds did not seem to be too disturbed by the observation hole though it did take the male a little longer than normal to return to the nest for the first time. On his return he investigated the rope and did not seem to be further interested.

The two young woodpeckers were ungainly looking creatures. While buzzing they assumed "spread-eagle" positions. Their necks were stretched to the utmost and beaks pointed straight up and gaping. The wings were outspread and strained back where they were held quivering. The nestlings rested on and received stability from their tarsi which were extended in front of them. They had very fat, protruding bellies over which the skin was practically transparent affording one a good view of some of the internal organs. The young birds were entirely without natal down and their skins were deep red. The only part of them that was any other color was the egg tooth. This tooth was a large white excrescence on the tip of

the almost triangular upper mandible, which, by the way, was shorter than the lower. The young showed a marked difference in size. One was a third again larger than the other. Both young had a few parasites. In the nest cavity along with the young were the egg shells of the hatched birds.

On the twenty-seventh of April the first signs of coming feathers were seen in the form of small black dots on the wings and legs.

The smaller of the two nestlings was missing from the nest on April 28. For what reason the young bird disappeared it is hard to say. Perhaps because it was the smaller bird, it was unable to get as much food as its nest-mate and thus died of starvation to be removed from the cavity by one of the adults.

On April 30 it was found that the remaining young bird had a good many more parasites on him than before. These were in unhealthy looking clusters at the bases of his wings.

On May 5, the eyes of the young woodpecker were open. His tail and wing feather-sheaths were a quarter inch out with the tips of the feathers protruding slightly. The egg tooth had become very much diminished in size.

On May 9, the nestling was covered with feather-sheaths and on the body the contour and body feathers were just barely protruding from their sheaths. Those on the wings and tail, however, were a good half to three quarters of an inch out. Pinfeathers on the crest were red while the appropriate neck, body and wing feathers showed white. The egg tooth had almost entirely disappeared. Fewer parasites were evident on the undersides of the wings perhaps because the growing feathers afforded some concealment.

No parasites were noted on the thirteenth of May when the nestling was found to be entirely clad with feathers. By this time the beak had become much elongated and the upper mandible was the same length as the lower.

FEEDING.—One of the drawbacks of watching the nest-life of a hole-nesting bird is that activities within the cavity cannot be seen. It was only during the last few days of observation that I could see the adult Pileated Woodpecker feed its young. I witnessed the event for the first time on the nineteenth of May and observed it only four times thereafter. Each feeding followed a regular pattern as an excerpt from my notes will illustrate.

4:58 P.M.—The male bird landed on the nesting tree ten feet above the nest hole. The nestling stuck its head out shortly after the adult's arrival and commenced a continuous "*wuk-wuk-wuk*" call. The calls increased in intensity as the parent bird backed down to the hole.

4:58½.—The male fed the nestling, whose crest was erected, twice by inserting the beak deep into the gaping mouth of the young and regurgitating.

4:59.—The male flew from the top of the nest tree, having climbed there immediately after feeding the young. The young continued calling, the only interruption having been the actual feeding.

BROODING.—During the thirty-one days between April 23, when the young probably hatched, and May 26, when the nest cavity was found to be empty, the nest was visited fourteen times and was under observation for a period of twenty-six hours. The male was in the nest cavity for four hours of the twenty-six, the female for only half an hour, and birds of undetermined sex for three quarters of an hour. I hardly think that these figures are actually any indication of the amount of time the male spent on the nest as compared to the female. In the course of fourteen days of observing I spent on the average less than two hours a day watching the nest. In that short a period of observation it was impossible to arrive at any

definite conclusion concerning the actual length of time the woodpeckers spent in the nest-hole in a day. From the thirteenth of May to the twenty-second the adult woodpeckers spent no time in the nest during the course of my observations.

BOBBING.—An interesting behavior of the adult Pileated Woodpeckers was observed when they prepared to enter the nest hole. Unfortunately I did not make as complete notes on it as I should have as at first I did not realize that anything out of the ordinary was taking place. Every time one of the birds prepared to enter the nest hole it would execute what I call bobbing movements. The bird would be perched ready to enter the hole and then it would put its head into the hole for an instant, withdrawing it at once to scan the surroundings. After looking about for a short period, usually only a few seconds, it would repeat the performance. The female Pileated Woodpecker was observed to execute the bobbing on only four occasions. On each occasion she bobbed three times. The male was observed on eleven different occasions on each of which he bobbed from eight to thirty-six times, the average being sixteen.

Usually there would be variations of one kind or another during the bobbing. Sometimes the woodpecker would perform a "false entrance" then withdraw its body to continue bobbing. On other occasions, such as on the day I discovered the young to be hatched, a low whining note would be uttered in the course of the bobbing. Sometimes, too, the entering woodpecker would tap on the tree or some part of the entrance between bobs.

U. S. ARMY AIR BASE, SMYRNA, TENNESSEE.

THE ROUND TABLE

DOWNY WOODPECKER FEEDING ON CORN-EAR WORM.—While visiting friends in a farming community in Sullivan County in Northeast Tennessee during September and taking a stroll to look for birds, I heard a Downy Woodpecker's call from the direction of some apple trees near the barnyard. A thorough scanning of these trees did not reveal the presence of the bird even though a rustle of leaves and the sound of pecking seemed to indicate its close proximity. I finally sighted a male of this species among the still green plants of corn in a field immediately in front of the trees. Flitting from stalk to stalk, climbing all over the ears of corn and pecking busily on the husks, whose softness seemed to handicap penetration with his bill to the inside and securing whatever food looked for, the bird ultimately was seen to peck a hole through the husk of a sickly looking ear of corn and finally, with some effort, to pull out of it a corn-ear worm. He promptly flew away to a nearby walnut tree, with the grub in his bill, to devour it there in a position more comfortable than that of clinging to the ear of corn.—FRED W. BEHREND, Milligan College, Tenn.

BELL'S VIREO AND OTHER NATCHEZ TRACE NOTES.—Our personal transportation problem having been solved July 3, we set out late July 6 for Natchez Trace State Park by way of Chickasaw State Park. Joined by the John Ponds, our object was to check on some of the interesting points of my June 7-8, 1944, visit (MIGRANT, 1944:25-27). It was later in the season than desirable for hearing Whip-poor-wills and Chuck-will's-widow as these species call less frequently after June, but the delay was unavoidable. We reached Chickasaw Park, spending about an hour in the Lac La Joie area. A few Prairie Warblers were heard singing but only one Pine Warbler. The next afternoon on our return we heard two more Pine Warblers. No Towhees were heard on either occasion. No hawks or herons were seen.

At Lake Placid we turned back to the picnic grounds due to bad roads. Just at dusk (7:25 P.M.) a lone Chuck-will's-widow called and repeated a few times in the next ten minutes. We heard no others during the supper hour, on our stops en route to, or on our arrival at Natchez Trace about 10:30 P.M.

At 3:55 A.M. Mrs. Coffey heard a Whip-poor-will and awakened us. From our cots in the picnic area on the north side of Cub Lake we could hear a Chuck-will's-widow and two Whip-poor-wills call for a few minutes. Other species were starting to call or sing but the night birds were only brief performers. Before we started on a drive north to Maple Lake the chief attraction, near the Lodge, was a male Scarlet Tanager singing from an open perch. About half way to Maple Lake at one of our frequent stops a male Black-throated Green Warbler was seen. This species is an early fall transient at Memphis, the earliest record being two "juvenals" on July 21, 1935, by McCamey and Foster. Shortly afterwards while looking for a Prairie Warbler I picked up a Vireo, dismissing it as a White-eyed. A few minutes later a song registered with me as familiar but vaguely associated with some other region. When I tagged it as the Bell's Vireo I realized that the Vireo I saw had a dark eye. The bird was found again and Mrs. Coffey and John Pond were also able to get a good look at it. It repeated the song once, low, then remained quiet and was not found later on our return from Maple Lake. The writer had located a pair in Memphis in June, 1934 (1935:67-68), others at Lonoke, Arkansas, and found them fairly common at Ft. Sill, Oklahoma, in 1943 and 1944. The Worm-eating Warbler was not found but a visit earlier in the season might have been more successful. Only one Black-and-white was noted although it was fairly common previously. No Pine Warblers were recorded as yet. Species not previously listed in the park were: Red-shouldered Hawk (5), Hairy Woodpecker (1), Red-bellied Woodpecker (2) and Mockingbird (3). Towhees were fairly common. Turning towards home, July 7, we found this species at four places south of Lexington and to within six miles north of Jack's Creek. This agrees with our trip over this area, July 19, 1936 (1941:56). Five miles west of Henderson we saw a Barn Swallow. We passed through Chickasaw to old highway 105 and near Silerton saw several flocks of Starlings in rural areas.—BEN B. COFFEY, JR., Memphis 7, Tenn.

SUMMERING TOWHEES AT MEMPHIS.—In a discussion of the summer distribution of the Towhee (*Pipilo erythrophthalmus*) in the Mid-South (MIGRANT, 1941:51-57) based on experience from 1928 to 1941, it was mentioned that in recent years scattered records were occasionally reported for the area where this species is normally absent during the summer. On the border of its range at Natchez Trace Park it proved more common in June, 1944, than expected (1944:25-27) (see also notes this issue). From this I believed the species was becoming more common, increasing the probability of records in the Memphis area. J. Southgate Y. Hoyt has described the first nesting record for Memphis, just inside the city limits, April, 1945 (1945:40-41). That summer, Robert Tucker found the species at two places just north of Raleigh along the Austin Peay Highway, and on July 28, 1946, we heard one singing a few miles farther north. Jim Vardaman has reported a pair in his yard in the center of Memphis all this summer. I was somewhat surprised to hear two calling one morning as I drove towards McCamey's but on stopping to look at them I realized the location was the back of Jim's area. Stragglers appeared in our yard May 3-5, evidently the tail end of the migrants. Stevenson at Oxford, Miss., in 1944 to June 18 reported the species uncommon to fairly common (1945:43).—BEN B. COFFEY, JR., Memphis 7, Tenn.

NEST BUILDING OF BALTIMORE ORIOLES.—For the past six years, Baltimore Orioles have come to our yard to secure suitable nesting material for their hanging cradle. We nail the container to an old post, about 5 feet above the ground, and it consists of a small wire cone with a top on it to keep the contents dry. We fill this container with soft strings, cotton, strips of paper, and hair from the heads of those who get short cuts when hot weather comes. We have to refill it several times. Apparently, the female does the actual nest building but the more brightly colored male comes along on some trips and flies low with her, for often she carries such a load that she cannot quickly get her altitude. Up to this year, the nests have been built in the same tree, which is located just across the avenue. This year, however, she went on down the cross street. In coming to and fro and while selecting material, the female is quite unafraid and seemingly friendly. It is interesting to observe the way she chooses the material and then tests it out on an old peach stub to see if it meets requirements. If it does not, she tosses it away and promptly one of the much less particular English Sparrows flies off with it for its own nest. The material the oriole seemed to like best this year was the narrow strips of soft paraffined paper that comes around the Easter eggs we buy in little baskets for the children. I shall hunt up the nest after the leaves fall.—Mrs. S. D. JACKSON, 313 E. Watauga Ave., Johnson City, Tenn.

WILDLIFE CASUALTIES ON THE HIGHWAYS.—Although I use the highways relatively little, the number of dead creatures of the wild found on the roads in certain seasons of the year has seemed appalling, particularly during migration and early summer. In March, 1940, I started keeping a record of birds, mammals, and reptiles that had apparently met death through collision with automobiles. From then until April, 1942, on my trips to Warner Parks and in the vicinity of my home, I found 203 birds of 34 species dead on the road. In addition, the list included 129 other wildlings such as rabbits, skunks, opossums, box turtles, snakes, toads, and others.

During the wartime period of gas rationing, I made only one trip per week to Warner Parks, and, while the number of cars and the rate of speed were greatly reduced, I found so few casualties that no records were kept. However, in 1946, when restrictions on automobile travel were removed, the toll of wildlife began to mount, particularly on the two highways bordering Percy and Edwin Warner Parks and on Hillsboro Road. My trips covered about 25 miles of road south and west of home. In this small area, from late March to September 1, 1946, I found 62 birds of 21 species dead on the road. There were numerous rabbits, opossums, skunks, box turtles, moles, with rabbits, numbering 24, in the lead as casualties.

Listing the birds in alphabetical order for the five month period in 1946, the casualties are: Bluebird 3, Bobwhite 1, Indigo Bunting 6, Cardinal 4, Crow 2, Black-billed Cuckoo 3, (May 19, 20, June 3). Yellow-billed Cuckoo 5, Mourning Dove 3, Bronzed Grackle, 1, Red tailed Hawk (juvenile plumage) 1, Blue Jay 3, Mockingbird 7, Pigeon 1, Wood Pewee 2, Robin 1, Chipping Sparrow 5, Field Sparrow 1, House Sparrow 7, Brown Thrasher 3, Wood Thrust 2, White eyed Vireo 1.

In the past several years, it has been possible to save a few birds that I happened to see in time to pick up before they were killed by other passing vehicles. Among these stunned birds that were rescued, I recall an Indigo Bunting, a Yellow breasted Chat, a Yellow Warbler, a Cardinal, all of which flew away later wearing an aluminum band as a souvenir of their experience.—AMELIA R. LASKEY, Graybar Lane, Nashville, Tenn.

LATE NESTS OF 1946.—On June 30, 3 Phoebe's hatched from a set of 4 eggs and left the nest July 18. A Carolina Wren laid her set of 5 eggs June 30-July 4 in a box in Percy Warner Park. Four young hatched on July 18, 3 surviving to leave the nest August 2. At home, another Carolina Wren laid her set of 4 eggs July 17-20. All hatched August 3 but only 2 survived to leave the nest August 16. In Edwin Warner Park, a Mockingbird's nest held 3 large nestlings on August 5.

Each year, some of the Warner Parks nest boxes are still occupied by Bluebirds into August. This season, there were 8, with a total of 28 eggs that were laid between July 3 and July 28. From these nests 22 young fledged, leaving the boxes between August 3 and August 27. Three broods of 3, one brood of 4 young left by the 10th; three broods of 2 young and one of 4 left between August 17 and 27. —AMELIA R. LASKEY, Nashville, Tenn.

DDT: IT'S EFFECT UPON FISH AND WILDLIFE.—After extended field and laboratory experiments, the U. S. Fish and Wildlife Service has issued Circular No. 11 under the above title and which gives the results of preliminary studies. Copies can be had from the Supt. of Documents, Washington, D. C. at 5 cents. We note with interest that when sprayed within proper limits, its effect was not found to be greatly damaging to birdlife but that many precautions are necessary. No mention is made of the potential harm that may come from individuals or city health department attaches promiscuously spraying householder's trash piles in which "home birds" may be in the habit of searching for bits of food. Heavy spraying of such places could result in high avian mortality. We quote below the circular's "Recommendations for minimizing danger to wildlife."

"Use DDT for the control of an insect pest only after weighing the value of such control against the harm that will be done to beneficial forms of life. Wherever more than a small area is involved, consult county agricultural agents, State or Federal entomologists, wildlife and fishery biologists, and United States Public Health Service officials.

"Use one-fifth pound or less of DDT per acre in an oil solution to avoid damage to fishes, crabs, or crayfishes; use less than 2 pounds per acre to avoid damage to birds, amphibians, and mammals in forest areas. Because of its greater effectiveness, use smaller quantities of DDT in emulsions.

"Use DDT only where it is needed. Wherever it is applied by airplane, provide careful plane-to-ground control to insure even coverage and to prevent local overdosage.

"In forest-pest control, wherever feasible, leave strips untreated at the first application to serve as undisturbed sanctuaries for wildlife, treating these strips at a later time or in succeeding seasons if necessary.

"In the control of early appearing insect pests, apply DDT, if possible, just before the emergence of leaves and the main spring migration of birds; for late appearing pests, delay applications, whenever practicable, past the nesting period of birds. Adjust crop applications and mosquito-control applications so far as possible to avoid the nesting period.

"Because of the sensitivity of fishes and crabs to DDT, avoid as far as possible direct application to streams, lakes, and coastal bays.

"Wherever DDT is used, make careful before and after observations of mammals, birds, fishes, and other wildlife."

MESSAGE FROM THE PRESIDENT

We are swinging back to normal, however some rather violent swings may be encountered before we level off. If we wait until conditions are considered normal much valuable time may be lost through failure to record valuable information and observations. We feel that the time is ripe for renewing our efforts toward the advancement of ornithology throughout the state. The responsibility rests upon each individual both with respect to contributions to our journal, *THE MIGRANT*, and passing on information to friends and acquaintances who might become ardent students of ornithology.

During the war years many of us of necessity neglected or omitted many of the things we formerly enjoyed while a faithful few carried on the activities so faithfully and well that many of us take for granted that the excellent work will go on indefinitely. This will not be the case. Already some of our members who have served longest and most faithfully are requesting relief from their jobs at an early date. Doubtless some of our members are qualified and willing to take over these tasks. One of our immediate tasks is to select a successor for our Treasurer, Mr. Glebsch, who has resigned. The second task is to select a successor for the Editor of *THE MIGRANT*, Mr. Ganiem, who wishes to be relieved at the end of the year.

Our constitution provides for filling vacancies in a very democratic manner, although, under present circumstances, slowly but, I hope, surely and soon. During the recent war period the election of directors was dispensed with and is only now being resumed. It is the function of the Board of Directors to handle such urgent matters as the one before us and I propose to carry out these regulations of our constitution as nearly as conditions will permit. This procedure may appear unnecessarily slow, cumbersome and unwarranted; however, it does provide broad representation and a means of keeping all chapters informed of activities of State-wide interest.

I have written our Secretary, Mr. Keeton, to request each chapter to select the number of directors to which they are entitled by the constitution, viz, one for each ten members or fraction thereof. I trust that all chapters are proceeding to comply and that within the next few weeks several candidates will be proposed for these offices and the Board of Directors can proceed to select a Treasurer and an Editor for *THE MIGRANT*.

When these matters are taken care of we propose to formulate plans for increasing our membership and attempt the organization of additional chapters to provide more adequate coverage for all parts of the state.

Suggestions regarding the operation of T. O. S., activities, projects or means of advancing our avocation will be greatly appreciated as this is your Society and we want all to cooperate to the fullest extent. However, you must let us know what you want and contribute articles for publication which are of interest to you.

Yours for more and better birding,

LEE R. HERNDON.

NOTES, HERE AND THERE

Our new President, Dr. Herndon, presents a message on another page that should inspire us all to put our shoulders to the wheel and help the T. O. S. to go forward into this new period of peace and become of greater usefulness than ever before. We suggest that you drop him a line, present some constructive suggestions and let him know that he will have your interest and cooperation.

The Kentucky Warbler, official organ of the Kentucky Ornithological Society, is now edited by Dr. Harvey B. Lovell, 3011 Meade Ave., Louisville 4, and may be had, along with membership in the K. O. S. for the small sum of one dollar per year. Its contents are much like ours and throw interesting sidelights on this adjacent area. The T. O. S. has many valued members from our sister State and, reciprocally, bird students of Tennessee are welcomed into their fold.

Our annual mid-winter bird census will be held as near Christmas as possible, the December 22 date having been chosen by the majority. Additional census lists during the two weeks that follow will be very acceptable, particularly if they cover another locality. Copies of such lists should also be sent to the *Audubon Magazine*; if desired, the Editor will transmit them to Mrs. Hickey, the census editor of that journal.

The Fall Field Day of our Elizabethton chapter was held on September 29 and was particularly successful in that 84 species were listed. This was accomplished by dividing into parties which searched diversified terrain.

Ye Editor spent Sunday, October 27, on picturesque Open Lake, midway between Reelfoot and Memphis, chiefly to photograph in color the highly photogenic old cypress trees that grow out into the water. Birdlife was not numerous but Tree Swallows made up for this scarcity when hundreds were found sunning themselves on the dwarfed cypresses and permitting photography at only a boat's length away.

Messrs Fred W. Behrend and W. F. Pearson spent a bird-study vacation in Florida during September and came back with the acquaintance of some new species as well as many other observations of interest.

This reminds us that B. Franklin McCamey is back in Memphis after three years service with the U. S. Naval Weather Service in Florida. Frank came away with many reels of excellent bird movies which he took there.

There will be a meeting of The Wilson Ornithological Club at Omaha, Nebraska, on the Thanksgiving week-end, November 29 and 30.

Canada's new air-mail stamp depicts an artistically rendered Canada Goose in flight, instead of the conventional airplane motif.

Is your file complete? The December issue will conclude another block of three volumes, with index appended and all ready for binding into book form. Missing numbers can be supplied at thirty cents each.

Pending the election of a new Treasurer to succeed Mr. Clebsch, who has found it necessary to resign after nine years service, dues should be sent to Secretary Keeton whose address will be found on the last page. By remitting prior to January 1st, you will save the Society the cost of billing.

ERRATA.—On page 26 of our last issue, in the first line, change the date from May 4, 1936, to May 4, 1946.

THE MIGRANT

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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

EDITORIAL

WHY WE USE CAPITALS FOR SPELLING BIRD NAMES

There seems to be a growing trend, especially among the lesser bird journals, to cease the time-honored custom of spelling birds' names with capital letters. It is the writer's feeling that this change is not commendable and his reasons for this statement are as follows.

If our journals are to be worth saving for future reference (most editors think they are), they must be susceptible of indexing and periodically provided with a species index. When such an index is used at a future time and the name of a species is therein found to be on a certain page, it is possible to find it there quickly if marked by capitals. Indeed, it may appear near the bottom as well as near the top and the second reference may otherwise be overlooked. For those who compile the indices, the use of capitals greatly lessens the task. Anyone who has searched the literature for information about certain birds, has reason to be thankful for the time saved when capitals are used.

Those journals which have fallen into this modernistic trend and which may argue that they are of such a "popular" nature that they can disregard the rule, would appear to be in error for still another reason. The beginner bird student should have impressed upon him that he must learn the full vernacular name of each species. Without capitals, how is he to know where the adjectives leave off and the name begins? Would he know if he found scattered about on the printed page of text such names as little blue heron, black-crowned night heron, common mallard, broad-winged hawk, purple gallinule, spotted sandpiper, laughing gull, great horned owl, least flycatcher, brown creeper, black-throated blue warbler, northern water-thrush, slate-colored junco, etc., etc.? We think the departure, in the case of some, may be charged to leaving matters to the printer's judgment of what constitutes a "neat page." Others may be following the lead of Smithsonian publications but these are not analogous, for in such publications no partiality can be shown to either bird, beast or flower and to capitalize all would but add to the confusion. Our major ornithological journals all stick to capitalization and it would seem best for the lesser ones to fall in line.—A. F. G.

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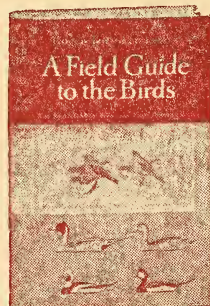
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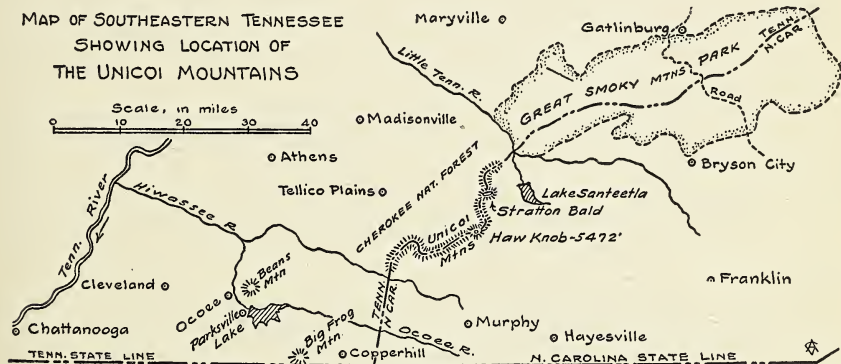
DECEMBER, 1946

No. 4

BREEDING BIRDS OF THE UNICOI MOUNTAINS

By ALBERT F. GANIER and ALFRED CLEBSCH

During the last half of June in the years 1944, 1945 and 1946 we studied the breeding bird population of the summits of the Unicoi mountain chain which follows the State line between southeast Tennessee and North Carolina. The species listed below were all noted in altitudes ranging from 4000 to 5472 feet above sea level except where a lower elevation is specifically mentioned. The results of the 1944 trip were published in *THE MIGRANT* for December, 1944, and in that article we gave a detailed description of these mountain summits. This will not be repeated here except to say that, aside from a few grassy balds, the area for many miles in every direction is densely forested, chiefly with deciduous growth, yet with much of the original hemlock stand still untouched. No report had been made previously on the birds of this mountain chain.



Camp and headquarters were made each year at Stratton's Meadow Gap (4350') where a bald of five or six acres lies across the saddle of the mountain pass that is reached by ascending North River Valley. Toward its borders this bald is studded with trees and clumps of shrubs, service berries offering choice food to the birds; water courses on either slope lie partly in the open, and with all these attractions bird life is more varied and plentiful here than elsewhere in the range. From this point we explored the ten miles of ridge from Stratton's Bald (5272') on the north to Grassy Top which is south of Haw Knob (5472'), the highest point in the Unicois. The dates for our investigations were June 18 to 25, 1944, June 15 to 23, 1945 and June 16 to 26, 1946, making in all 28 days. During the last two visits we had considerable rain and lost some time on this account. The period chosen represents the height of the nesting season for most small birds and special attention was given to

seeking data on this activity. The number of species found during the three seasons was 39, 39 and 41, the composite list totaling 44 species.

Since our field work was almost altogether along or close to the boundary line between Tennessee and North Carolina, the notes are applicable to both states. While on the North Carolina side the forest was still in virgin state, and the big hemlocks reached the summits, we do not feel that conditions were sufficiently different to prevent any of the species listed from being found on either side of the line.

For the benefit of others who may visit this area and would like to spend a day in a primeval mountain forest we would suggest that they park their car on the foresters' road at Stratton's Gap, then drop over into the North Carolina side and, crossing the small stream, roam leisurely along its downward course for a half mile through virgin hemlocks and hardwoods. A compass should be used and care taken against getting lost in this trackless forest. Because of its ease of access we hope to set a movement on foot to save this particular area from the inevitable advance of lumbering operations.

Eastward from Stratton's Bald, the 3800 acre watershed of Little Santeetla Creek in North Carolina comprises the Joyce Kilmer Memorial Forest. This section, reached by road from the North Carolina side, is still in virgin forest and will remain so.

In addition to the avifauna we took note of the mammals encountered afield and these are listed following the birds. In verification of what the chief forester told us we saw very few snakes. One of these was a 49 inch Timber Rattlesnake we found at Stratton's Gap. It was on a pile of rock by the side of the road and was promptly dispatched. Its occurrence at such a high elevation is regarded as unusual.

For the purpose of making subspecific identifications a collection of birds was made and preserved in the form of study skins. Species represented in the collection are marked with an asterisk (*), while a double asterisk (**) indicates subspecies determined by Dr. Alexander Wetmore of the U. S. National Museum after examination of the 1944 specimens. Those taken during 1945 and 1946 are receiving further study and will be reported upon later if findings justify.

Since the localities included one of the Tennessee Game Management Areas, special collecting permits had to be secured from the State Department of Game and Fish as well as from the supervisors of the Cherokee and Nantahala National Forests. To each of these we wish to express our appreciation.

We had for a capable assistant Eddy Clebsch, son of the junior author, who accompanied us on each trip and contributed materially in gathering the data and rendering help in general.

The annotated list follows. Where subspecific names are shown but not substantiated by specimens, they are the ones to be expected at this location. Stratton's Gap is referred to in the list as the Gap. The three figures following the name represent the total of individuals recorded in 1944, 1945 and 1946, respectively. They were compiled from card lists made on each day of our visits.

EASTERN TURKEY VULTURE: *Cathartes aura septentrionalis*

1-6-4

Seen occasionally, at one time as many as 6. Presumably they nest at lower altitudes where there is more open country.

- EASTERN RED-TAILED HAWK: *Buteo jamaicensis borealis* 2-1-2
 Apparently rare. Observed over Stratton's Bald, at the Gap and below Haw Knob.
- APPALACHIAN RUFFED GROUSE: *Bonasa umbellus monticola* 3-3-10
 Met at a number of points along roads and trails. On June 18, 1946 we flushed a hen and 6 young.
- EASTERN BOB-WHITE: *Colinus v. virginianus* 1-2-0
 Heard only at the Gap, once in 1944 and twice in 1945.
- EASTERN TURKEY: *Meleagris gallopava silvestris* 1-2-0
 Observed only at Stratton's and Whigg's Cabin Balds. Game Warden J. B. Lovin assured us that they were often seen at lower altitudes and conditions there looked well suited for their needs though predators doubtless take heavy toll.
- NORTHERN BARRED OWL: *Strix varia varia* 2-2-2
 Two males heard nightly from the hemlock forest just east of the Gap. We saw one there on a cloudy day after locating it by the protestations of small birds that had gathered.
- CHIMNEY SWIFT: *Chaetura pelagica* 9-10-7
 Noticed regularly at all points along the summit ridge, including 3 over Stratton's Bald. Near Beech Gap one was trying to break off dead twigs for nest-building and for this they are almost bound to use the hollow trunks of dead chestnut trees.
- RUBY-THROATED HUMMINGBIRD: *Archilochus colubris* 5-11-11
 Fairly common and generally distributed. The flaming azaleas, blooming during the middle of June, adorn the borders of the balds and cover some of the exposed rocky spurs. Hummingbirds eagerly seek the nectar of the blossoms.
- FLICKER: *Colaptes auratus* subsp. * 3-4-6
 Uncommon but found at each bald and at other points along the ridge. Parents were feeding young in several nests.
- SOUTHERN PILEATED WOODPECKER: *Ceophloeus p. pileatus* 2-4-1
 Rare. These vociferous birds, which do not fail to make their presence known if about, were found in only a few places. Their chief food at lower altitudes consists of the grub worms they find in rotting and fallen trees. At high altitudes where night temperatures are low, the supply of such food is greatly curtailed.
- YELLOW-BELLIED SAPSUCKER: *Sphyrapicus varius* subsp. * 6-1-5
 From our 1944 paper we quote, "We were pleased to be able to extend the known breeding range of this species southwestward into the Unicoi Mountains, finding them at home in the Gap, on John's Knob, at Swan Meadow (on the Carolina side at 4250'), and in the deciduous forest at 4700'. At the latter location, a pair were busily feeding noisy young in a nest hole drilled 50 feet up in a dead chestnut." During 1945 and 1946 we located Sapsuckers at Beech Gap and near Haw Knob, also some at Stratton's Gap where one was inspecting a nest hole in a tall dead tree.
- HAIRY WOODPECKER: *Dryobates villosus*, subsp. * 4-5-4
 Uncommon and, as elsewhere, difficult to approach.

- NORTHERN DOWNY WOODPECKER: *Dryobates pubescens medianus* * 3-6-6
Uncommon, but well distributed.
- CRESTED FLYCATCHER: *Myiarchus crinitus boreus* 0-0-1
Although indications are lacking that this species nests in the higher altitudes, it was added to our list in 1946 when we noticed one individual at 4000' along the Sassafras Ridge Road.
- EASTERN WOOD PEWEE: *Myiochanes virens* * 9-9-17
Fairly common, but more abundant about the Gap.
- FLORIDA BLUE JAY: *Cyanocitta cristata cristata* ** 4-13-15
Fairly common, and noisy. One of the specimens collected was a fully fledged young of the year.
- NORTHERN RAVEN: *Corvus corax principalis* 3 (or 5)-2-1
To our published notes for 1944 we found little to add during 1945 and 1946; merely that we again saw one from Stratton's Bald and at the Gap. We were told that others could be seen around Waucheesi Knob, about 10 miles eastward.
- CAROLINA CHICKADEE: *Parus c. carolinensis* ** 7-5-9
Uncommon. Found chiefly about the Gap and along the ridge leading to Stratton's Bald.
- TUFTED TITMOUSE: *Parus bicolor* * 8-6-20
Fairly common and generally distributed. In their roaming through the tree tops they never tarried long and it is safe to assume that the young of the year were on the wing.
- WHITE-BREASTED NUTHATCH: *Sitta carolinensis subsp.* * 13-7-15
Noted at several locations, occasionally family groups with young.
- RED-BREASTED NUTHATCH: *Sitta canadensis* * 2-1-4
We quote from our previous paper: "Here again we were able to extend the breeding range of a species southward from its nearest outpost near Clingman's Dome in The Smokies. In the grove of virgin hemlock previously referred to, we sought for it intensively on June 23 (1944) and were rewarded by locating two of them and identified them beyond question. This probably marks the southern limit of their breeding range." During 1945 and 1946 we located them among the old hemlocks adjoining the Gap and secured an adult specimen.
- SOUTHERN WINTER WREN: *Nannus troglodytes pullus* * 2-0-2
At the Gap in 1944 and again in 1946 we located them in the rhododendron jungle along the stream. One was secured in 1946. The song, so bold and characteristic in regions where the birds are more abundant, was weak and hesitatingly given by the individuals we approached.
- CATBIRD: *Dumetella carolinensis* 14-24-33
At the Gap, 8 or more birds were present and others were found along the trails and on the balds, up to 5000'.
- EASTERN BROWN THRASHER: *Toxostoma r. rufum* 5-2-4
Observed in the bald at the Gap, where they had nests, and again on Sassafras Ridge and Whigg's Cabin Bald.

EASTERN ROBIN: *Turdus m. migratorius*

** 20-17-25

Common about the balds and in the more open woods.

WOOD THRUSH: *Hylocichla mustelina*

30-22-38

Sixth in number of times listed, perhaps because of its loud and frequent song. Several nests held sets of eggs.

VEERY: *Hylocichla f. fuscescens*

* 50-44-46

Second only to the Junco in point of abundance, this species is well distributed from 3750 to 5472'. At the highest elevation, on top of Haw Knob, a nest with 3 eggs was found. Most of the many other Veery nests we saw held likewise 3 eggs, a few of them only two, and again, in some the brood had already hatched. As a rule the nests were built in small cattle-cropped beech sprouts, about two feet above the ground, but occasionally little hemlocks had been used. A loose pile of beech leaves is brought in and the nest proper is built into this base. The birds are very shy and it requires skill to get a good view of them.

CEDAR WAXWING: *Bombycilla cedrorum*

* 7-9-10

Several pairs made headquarters at the Gap and others were located at Whigg's Cabin Bald and on John's Knob. We doubt that they had settled down to nesting as yet.

MOUNTAIN VIREO: *Vireo solitarius alticola*

* 30-27-41

Rated fifth among the most common birds, their presence readily told by frequent song. Several nests were found, the sets of four eggs fresh in some and already incubated in others. The pendant nests, averaging 8 feet up, are compactly built and quite ornate.

BLACK-AND-WHITE WARBLER: *Mniotilta varia*

* 4-3-11

Uncommon but met at several locations. Two of the specimens taken were fully feathered young of the year.

CAIRN'S WARBLER: *Dendroica caerulescens cairnsi*

* 47-32-35

Third among the most common species and a frequent singer. A dozen or more nests were found, most of which contained three eggs, while one held four, another two, and several were empty. Small young were in two nests. The birds like to build in the small beech sprouts along the ridges, about two feet above the ground, and prefer black cattle hair for lining the nest.

BLACK-THROATED GREEN WARBLER: *Dendroica virens virens*

* 0-0-8

One was found at Whigg's Cabin Bald in 1946 and that year we learned that their haunts are in the tree tops of the oldest hemlock stands. There we had seen them on the previous visits but failed to recognize them.

BLACKBURNIAN WARBLER: *Dendroica fusca*

* 3-2-6

Found at three sites in old hemlock trees which form their habitat. Two handsome males were collected, more brightly colored than spring transients taken at Nashville. Finding them in the Unicois extends their breeding range in Tennessee southwestward from the Great Smokies.

CHESTNUT-SIDED WARBLER: *Dendroica pensylvanica*

* 34-36-37

Holds fourth place of the most common species. The birds prefer edges of the balds but are also found in open woods along the ridges. Nests with fresh eggs were found at the Gap, whereas other nests had only been completed.

OVENBIRD: *Seiurus aurocapillus*

* 21-17-18

Fairly common, but recorded practically from their song alone, for they seem to be even more elusive than the Veery. At one location, however, a fledged young let us approach and observe him.

LOUISIANA WATERTHRUSH: *Seiurus motacilla*

* 0-2-1

Rare, but noted at two separate sites both of which were at 4250' elevation. We could not establish that there were pairs at either of them. One bird was seen and heard along the stream by our camp, the other one heard on Cold Creek.

HOODED WARBLER: *Wilsonia citrina*

0-0-1

Not a bird of the summits although an individual was heard where the trail crossed Cold Creek (4200') near Swann Meadow.

CANADA WARBLER: *Wilsonia canadensis*

* 5-5-17

These showy yellow, black and grey warblers were well distributed and oftentimes permitted us to study their pursuits.

EASTERN COWBIRD: *Molothrus ater ater*

* 1-0-0

Our single record was of a bird we collected on June 20, 1944, as it flew about the summit of Whigg's Cabin Bald (5000'). It proved to be a young of the year and may have been reared at the site in the nest of a Rose-breasted Grosbeak or perhaps that of a Junco.

SCARLET TANAGER: *Piranga olivacea*

* 3-1-3

Noted at Whigg's Cabin Bald, the Gap (at least two males) and at two other locations along the ridge.

ROSE-BREASTED GROSBK: *Hedymeles ludovicianus*

** 10-11-32

Proved to be commoner in 1946 than they had appeared to be in the preceding years, and found to be as well distributed in the deep forest as they are about the balds. Clearly an early nester for a fledged young was found and half a dozen nests that had been vacated.

EASTERN GOLDFINCH: *Spinus tristis tristis*

5-3-11

Rare. Found at the Gap, Whigg's Cabin Bald, Stratton's Bald and along Sassafras Ridge.

ALABAMA TOWHEE: *Pipilo erythrophthalmus canaster*

** 16-26-17

Common about the balds and along the high, open ridges, up to 5200'. One nest with young and several with three eggs each were found. Singing from the pinnacle of some dead snag occupied much of the time of the males.

CAROLINA JUNCO: (*Junco hyemalis carolinensis*)

* 42-58-62

By actual count of individuals this proved the most common species and it occurred alike about the balds, the roads, the trails and even in the dense forest. Some of these birds were noted on the road to Tellico Plains at altitudes down to 3500'. In our territory nests were found easily, under banks of trails and roads, among the roots of up-turned trees and in small hemlocks, a few with small young and others with three or four eggs. More than half of the ground nests, however, were found to be empty as though they had been robbed by predators.

The brief list of mammals follows. Subspecific names, where used, have been deduced from Anthony's Field Book of Mammals and from recent papers

by Komarek and by Kellogg, covering nearby areas. We limit this list to the larger and medium-sized mammals that a student of nature is likely to encounter in this region. Trapping to which we resorted during a siege of rain quickly proved to us that these mountains are also inhabited by various small mammals mostly of nocturnal habits.

MOLE: (*Scalopus aquaticus*)

Mole tunnels were observed at several places.

RED BAT: (*Lasiurus borealis*) *

Approximately five were seen at dusk each evening at the Gap and two specimens were collected.

BLACK BEAR: (*Ursus a. americanus*)

One heard at dusk at the Gap, and claw marks seen on trees at other points; furthermore several signs and signposts damaged by bears. Wardens state they are regularly present.

FLORIDA SKUNK: (*Mephitis elongata*)

Seen near Stratton's Bald, and at the Gap one or more were regularly present and without fail dug up all garbage we buried. One took up quarters in a rhododendron clump close to our tent and became such a nuisance that it had to be eliminated.

WILDCAT: (*Lynx rufus rufus*)

We saw one at dusk at the Gap and the next evening two within short distance of each other were heard. The wardens accuse these animals of being the chief menace of Turkey and Grouse.

WOODCHUCK: (*Marmota monax monax*)

One observed on Sassafras Ridge at 4200'.

SOUTHEASTERN CHIPMUNK: (*Tamias striatus striatus*) *

Quite common and generally distributed.

CLOUDLAND RED SQUIRREL: (*Tamiasciurus hudsonicus abieticola*) *

Eight or ten of these little squirrels were listed and at least four sites recorded.

SOUTHERN GRAY SQUIRREL: (*Sciurus c. carolinensis*) *

A little more numerous than the preceding species.

FLYING SQUIRREL: (*Glaucomys volans* subsp. *)

This nocturnal species was not seen until our last visit when pounding brought a pair of them out of a hollow dead tree.

WHITE-TAILED DEER: (*Odocoileus virginianus*)

During June, 1946, a fawn was seen on two evenings after sunset at the Gap. Reported to be distributed throughout this forested area.

WILD HOG OR PRUSSIAN BOAR: (*Sus scrofa scrofa*)

This is part of the area where the annual boar hunts are staged, and the animals are said to have increased to several hundred head. At marshy spots on the trails along the ridges we saw signs that hogs had been wallowing there and elsewhere we noticed evidence of their rooting. Just after dark on June 24, 1946, a drove of six shoats galloped through our camp site.

NASHVILLE, TENN. (A. F. G.) AND CLARKSVILLE, TENN. (A. C.)

OCCURRENCE OF THE SAW-WHET OWL IN THE GREAT SMOKY MOUNTAINS DURING THE BREEDING SEASON

By ARTHUR STUPKÁ

When, on June 12, 1936, an immature specimen of the Saw-whet Owl (*Cryptoglaux acadica acadica*) was obtained in the Cranberry Glades of Pocahontas County, West Virginia, the record was published with the comment, "This is the most southern breeding record for this species in the East."¹ Four years prior to that time (on June 22, 1932) the capture of another immature bird of this species, near Cranesville, Preston County, served to establish the first Saw-whet Owl breeding record for West Virginia.² Neither of these records is mentioned by Bent³ who gives the breeding range in part as "south to Maryland (Cumberland); probably rarely northern Pennsylvania (Titusville); Ohio (probably Cleveland and probably Columbus); northern Indiana . . ." The information which follows should serve to extend the breeding range of the Saw-Whet Owl to the heart of the Great Smoky Mountains National Park, some 250 miles southwest of West Virginia's Cranberry Glades.

On June 21, 1941, at about 9:00 p.m., Norman P. Hill and Richard Bowen, two Harvard University students who were studying bird life in the Great Smoky Mountains National Park, heard the notes of a Saw-whet Owl at the terminus of the Clingman's Dome road. Since they were familiar with the voice of this little owl through previous study of New England birds, they had no difficulty in recognizing it; the evening was a quiet one and the bird was calling from somewhere nearby. As a result of the subsequent conversation and correspondence with these men (and, I must confess, with ornithologists with whom we were mutually acquainted) I accepted their record as the first that had been reported to me for the Saw-whet Owl in the Great Smoky Mountains National Park. The place where the bird was heard, at an elevation of 6300 feet, is within one-half mile of the summit of Clingman's Dome, the park's highest mountain. Its forest-covered slopes at this point consist largely of Fraser's fir (*Abies fraseri*), with some amount of red spruce (*Picea rubens*), mountain ash (*Sorbus americana*), yellow birch (*Betula lutea*), and pin cherry (*Prunus pennsylvanica*); these, along with various shrubs and herbaceous plants which grow here as well as in northern New England, *Viburnum alnifolium*, *V. cassinoides*, *Oxalis montana*, *Clintonia borealis*, *Maianthemum canadense*, *Streptopus roseus*) serve to characterize this as virtually the most southerly extension of the Canadian zone in the Eastern United States.¹

More than two years passed away. Then on the early morning of August 11, 1943, as I was leading a group of people from Mt. LeConte Lodge to Myrtle Point (one of the three main peaks of Mt. LeConte) to view the sunrise from there, a small owl appeared suddenly out of the heavy fir forest and flew along the trail ahead of me for a short distance. It then re-entered the forest only to reappear and fly across the trail a few seconds later. The time was approxi-

¹The writer is aware of the fact that there is some question in the minds of some biologists as to whether the Southern Appalachian spruce and fir forests should be regarded as part of the Canadian zone. It is outside the scope of this article to discuss the matter.

mately 30 minutes before sunrise, and for that reason and also because the incident took place in a heavy stand of trees, light conditions were poor. But although I could see no markings nor color on the bird, its size and proportions served to convince me that this was an owl of smaller size than the Screech Owl with which I am well acquainted. Since the place where the bird was seen is at an elevation of approximately 6500 feet, the prospects that the bird in question might possibly be a Screech Owl are remote, for in the more than 11 years that I have been stationed in the Smokies I have neither seen nor heard nor had any report of a Screech Owl above an elevation of 3500 feet.² Ordinarily I would not consider the recording of such an observation, but in view of the incidents which follow, the above circumstances are mentioned for what they are worth.

On the evening of May 26, 1944, accompanied by Peter Koch of Cincinnati, Ohio, I drove to the end of the Clingman's Dome road (elevation 6300 feet) which was reached at approximately 9:00 o'clock. The air was fairly still, the temperature was estimated to be in the high 50's, and a thin crescent moon was shining in a partly cloudy sky. Less than five minutes after our arrival we heard the notes of a Saw-whet Owl coming from the forested slope to the south. At times the notes sounded as though the bird was moving about while uttering them, but occasionally neither my companion nor I could agree as to just where the singer might be located, the notes being of a ventriloquial quality. To some degree the syllables, repeated with monotonous regularity, were reminiscent of the sound made by drops of water falling one by one into an empty tin can, but they also possessed a whistled intonation which was subdued by distance. The utterance continued almost without pause for a surprisingly long time.

From Clingman's Dome we drove to Newfound Gap, five and one-half miles to the northeast, stopping briefly at a few places along the way to listen for further evidence of this or any other nocturnal species. Arriving at Newfound Gap (on the North Carolina-Tennessee line, elevation 5040 feet) between 9:40 and 10:00 p.m. we heard another Saw-whet Owl almost as soon as we had stepped from our car. The sound seemed to come from a grove of tall red spruces at the western edge of the parking area. Walking to within 25 yards of these trees we stopped and I attempted an imitation of the notes which we had been hearing. Almost immediately we were startled by a response—an entirely different throaty gurgle of several notes hurriedly rolled together. Koch and I agreed that this could be none other than the effort of some small owl. My conclusion that this exclamation was of a challenging nature was probably correct, for, upon repeating my imitation of the monosyllabic notes, the same **throaty gurgle** was forthcoming. We now estimated that the bird might be within 75 feet of where we stood. Suddenly, much to our astonishment, there came a flutter of wings as though the bird was about to alight upon the top of either Koch's head or mine, but all at once it veered away and we had but a fleeting view of its silhouette against the sky. The bird had come within a very few feet of us before departing from the scene, but due to the fact that its appearance was so unexpected we could not be certain that this was indeed a Saw-whet Owl although what was observed, in silhouette, indicated a bird of

²Henry M. Stevenson, Jr., has reported the Screech Owl from the Highlands, N. C., region (*The Oriole*, Vol. 6, No. 4, 1941) where the elevation is 3835 feet above sea level. Highlands is located approximately 40 miles southeast of Mt. LeConte.

that size. Whether it intended to strike one of us in a manner common to many raptorial bird species is a point of interesting speculation. Major Bendire⁴ quotes Dr. William L. Ralph as follows: "Just before and during the mating season these little Owls (Saw-whet) are quite lively; their peculiar whistle can be heard in almost any suitable wood, and one may by imitating it often decoy them within reach of the hand. Upon one occasion, when my assistant was imitating one, it alighted on the fur cap of a friend that stood near him."

Two nights later, Koch and I again drove into the higher Smokies, and although nothing was heard in the Clingman's Dome vicinity, where a brisk wind was blowing, we again heard the monotonously regular notes in the vicinity of Newfound Gap and near Indian Gap, more than a mile to the west. As before, the birds were somewhere on the North Carolina side of the divide. The time was 9:00-10:30 p.m.

On April 9, 1945, accompanied by my wife, we stopped at Newfound Gap at approximately 9:30 p.m. and walked over to the place where Koch and I had had the already-described adventure. A light breeze was blowing but not enough to prevent both of us from hearing a Saw-whet Owl singing at some considerable distance in the valley to the south. So persistently were the changeless notes of the bird uttered that at times when the wind strengthened and, momentarily, usurped all other sounds, the steady cadence was continued in our ears. It is the sort of note which, if listened to long enough, will tend to persist like some repeated echo even when the listener is well out of all possible range of the sound.

Less than a month later, on May 6, 1945, the identical type of song was again heard at Newfound Gap. The time was 8:30-8:45 p.m. and my companion was Dr. Alfred Lewy, of Chicago. The owl appeared to be calling from approximately the same area. Dr. Lewy subsequently published a brief article⁵ in which he wrote, in part, as follows:

"One night after dark Mr. Stupka took me up to Newfound Gap to hear what he believed to be the call or song of the saw-whet owl, a distant whistle repeated eight or ten times in the same pitch at regular intervals. The owl had never been positively seen. Mr. Leo K. Conch, of the Fish and Wildlife Service, for whom I tried to imitate the call, says it was the saw-whet."

In view of the incidents related above, it is my belief that this little owl is an occasional, if not a regular, breeding species in the spruce-fir forests of the Great Smoky Mountains National Park.

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NATIONAL PARK SERVICE, GATLINBURG, TENN.

EDITOR'S NOTE.—An earlier record of what was taken to be a Saw-whet Owl, was made on Mt. LeConte, June 20, 1933, by Mayfield and Ganier, for details of which see Round Table section of this issue.—A. F. G.

ANNUAL MIDWINTER BIRD CENSUS

By T. O. S. MEMBERS

We present below THE MIGRANT's 18th State-wide midwinter bird count, extending from Elizabethton and the Great Smoky Mountains on the east, across the State to Memphis and Reelfoot Lake on the west. Half of the ten lists tabulated were taken on December 22 and 21, on which dates fine weather prevailed; the others were taken later under varying conditions. Among the rarer birds listed were Bald Eagle, Duck Hawk, Least Sandpiper, Raven, Fish Crow, Prairie Marsh Wren, Pipit, Palm Warbler, Pine Siskin, LeConte's, Vesper and Tree Sparrows.

The unusual scarcity of ducks this season was reflected on the census totals and was chiefly responsible for holding down the State combined list to 93 species. This figure compares with 96, 89, 99, 108, and 94, in the five years immediately preceding. The list does not take subspecies into account since in most instances, this would necessitate collecting. We do not include Rock Doves (pigeons). Utmost care is taken to eliminate errors due to mistaken identity, and this policy is particularly adhered to with respect to rare species and to those not regularly occurring at the localities covered.

This series of annual lists provides material on which to base many interesting studies on the winter bird distribution in Tennessee. The series from Nashville dates from 1914. None of this year's lists included any of the several large bird roosts that were known to exist but mention of one of these will be found in the Round Table section. There too will be found an additional list, from Moon Lake, Miss., which is 55 miles southwest of Memphis.

NOTES ON THE CENSUS

Nashville.—Of the Doves, 70 were seen in one flock. Ducks were on Radnor lake and, as elsewhere, were few in numbers. No Robin roost here as in 1945. Juncos were fewer than normally. Turkey Vultures were missed.—Memphis.—Scarcity of water birds perhaps due to no one being on Mississippi river. The Least Sandpiper was found by Herbert Clark as it fed along the edge of a small sand-pit lake. It was verified by Joe Mount and B. B. Coffey, the latter, squatting close to lake edge, had the bird "driven" by and viewed it at a distance of 4 feet.—Reelfoot Lake.—The Prairie Marsh Wren was seen in the sawgrass, at end of Biological Station dock; the same place it was recorded in 1934 and 1940. No time was spent on open water in boat.—Henderson.—Brown Thrashers missed for first time but are known to be present.—Great Smoky Mountains National Park.—Of the Chickadees, both the Carolina and Black-capped were listed; of the Juncos, both the Carolina and Slate-colored were present. The Red-shouldered Hawk was a specimen found dead. The Pipits were in one flock. Also seen in the area, Dec. 26 to 30, were Sharp-shinned Hawk, 1; Eastern Turkey, 2; Palm Warbler, 1; and Fox Sparrow, 1. Also, flocks of up to 40 Pine Siskins.—Elizabethton.—Previous census lists were swelled by the additions of Red-breasted and White-breasted Nuthatches and Red-bellied Woodpeckers, but of species recorded in previous years we failed to list Grackle, Hermit Thrush, Turkey Vulture and Pileated Woodpecker. Golden-crowned Kinglets and Goldfinchs were more abundant than on previous mid-winter counts and likewise Fox Sparrows. Jays and Doves were scarce. The Chapter's four year record now stands at 54 species.—Greeneville.—The sparrows listed

	Nashville Dec. 22	Memphis Dec. 22	Reelfoot Lake Dec. 25	Henderson Dec. 21	Great Smokies Dec. 29	Elizabethton Dec. 22	Greeneville Dec. 28	Clarksville Jan. 5	Clarksville Jan. 12	Murfreesboro Dec. 22
Number of species.....	67	65	61	50	49	48	42	43	41	38
Number of individuals.....	5724	28477	13660	594	1459	1426	3273	1011	1928	6238
Number of observers.....	22	28	4	3	21	11	6	3	5	2
Pied-billed Grebe	---	---	10	1	---	---	---	---	---	---
Double-cr. Cormorant	---	---	4	---	---	---	---	---	---	---
Great Blue Heron	---	6	8	---	---	---	---	---	---	---
Common Mallard	50	---	---	6	---	---	---	14	---	---
Black Duck	2	---	---	4	---	---	---	5	---	---
Baldpate	2	---	---	---	---	---	---	---	---	---
Shoveller	---	---	---	---	2	---	---	---	---	---
Ring-necked Duck	6	---	---	2	---	---	---	---	3	---
Canvasback	2	---	---	---	---	---	---	---	---	---
Lesser Scaup	6	---	52	---	2	---	---	---	---	---
American Goldeneye	1	---	25	---	---	---	---	---	---	---
Turkey Vulture	---	34	1	42	48	---	4	10	82	---
Black Vulture	24	9	2	21	---	---	---	2	87	7
Cooper's Hawk	6	5	1	---	2	1	---	---	---	2
Red-tailed Hawk	17	10	5	1	2	---	---	---	---	1
Red-shouldered Hawk	1	7	3	4	1	---	---	2	---	---
Hawk (buteo species)	---	---	---	---	---	2	---	---	---	---
Bald Eagle	---	---	6	---	---	---	---	---	---	---
Marsh Hawk	1	6	1	1	---	---	---	1	---	---
Duck Hawk	---	---	---	---	2	---	---	---	---	---
Sparrow Hawk	29	37	5	2	1	5	3	---	3	5
Ruffed Grouse	---	---	---	---	3	---	---	---	---	---
Bob-white	28	57	---	---	3	1	9	---	12	25
Coot	1	---	---	---	---	---	---	---	---	---
Killdeer	73	257	12	3	7	1	---	---	---	21
Wilson's Snipe	1	1	---	---	1	---	---	---	---	---
Least Sandpiper	---	1	---	---	---	---	---	---	---	---
Herring Gull	---	---	16	---	---	---	---	4	---	---
Ring-billed Gull	---	39	12	---	---	---	---	---	---	---
Mourning Dove	129	58	2	2	22	12	107	2	10	57
Barn Owl	1	---	---	---	---	---	---	---	---	1
Screech Owl	1	---	---	---	1	1	---	---	---	---
Great Horned Owl	4	2	---	---	---	---	---	---	---	---
Barred Owl	---	3	2	---	---	---	---	---	---	---
Belted Kingfisher	4	3	5	1	4	2	2	2	2	---
Flicker	46	112	8	10	---	13	6	5	6	7
Pileated Woodpecker	23	---	7	---	1	---	2	3	5	3
Red-bellied Woodpecker	28	59	5	11	---	4	5	2	6	4
Red-headed Woodpecker	---	28	---	---	---	---	---	---	1	---
Yellow-bel. Sapsucker	21	26	1	4	1	3	2	4	1	1
Hairy Woodpecker	13	20	2	2	---	2	2	1	1	---
Downy Woodpecker	67	55	14	13	2	29	12	9	7	6
Phoebe	2	---	---	---	3	3	2	---	1	---
Horned Lark	176	88	---	---	---	7	35	---	61	30
Blue Jay	44	431	16	35	---	7	22	5	23	23
Northern Raven	---	---	---	---	1	---	---	---	---	---
Common Crow	106	115	24	12	80	154	2050	160	31	51
Fish Crow	---	3	---	---	---	---	---	---	---	---
Chickadee	148	220	35	27	147	55	56	8	16	21
Tufted Titmouse	104	115	14	5	4	37	52	8	17	6
White-br. Nuthatch	8	1	---	---	---	1	2	---	4	---
Red-breasted Nuthatch	---	---	---	---	11	2	---	---	---	---
Brown Creeper	10	23	2	1	1	3	---	---	1	---
Winter Wren	3	17	3	1	3	3	4	4	---	---
Bewick's Wren	5	1	---	1	---	---	---	1	2	4
Carolina Wren	113	131	15	10	12	36	28	21	17	22
Prairie Marsh Wren	---	---	4	---	---	---	---	---	---	---
Mockingbird	160	152	7	3	6	15	25	5	15	19
Brown Thrasher	---	31	---	---	---	---	---	---	---	---
Robin	493	370	---	2	9	4	10	---	25	---
Hermit Thrush	7	47	2	3	5	---	---	2	---	---
Bluebird	158	49	8	7	30	42	38	7	15	26
Golden-crowned Kinglet	17	161	30	6	62	50	3	2	3	---
Ruby-crowned Kinglet	1	27	8	3	17	9	---	---	---	---

	Nashville Dec. 22	Memphis Dec. 22	Reelfoot Lake Dec. 25	Henderson Dec. 21	Great Smokies Dec. 29	Elizabethton Dec. 22	Greeneville Dec. 28	Clarksville Jan. 5	Clarksville Jan. 12	Murfreesboro Dec. 22
American Pipit	---	3	3	---	120	---	---	---	---	---
Cedar Waxwing	11	121	---	---	13	73	37	5	---	---
Migrant Shrike	5	53	22	4	1	---	---	---	---	2
Starling	1010	5644	1594	5	143	62	260	389	862	400
Myrtle Warbler	56	226	18	2	11	72	18	5	16	7
Palm Warbler	---	---	---	---	---	---	---	---	---	1
English Sparrow	510	640	65	63	73	107	116	40	288	150
Meadowlark	149	174	10	63	28	23	47	1	24	22
Red-winged Blackbird	4	359	1447	7	---	---	---	---	---	---
Rusty Blackbird	35	---	10	4	---	---	---	1	---	---
Bronzed Grackle	7	4985	855	---	---	---	---	---	---	5000
Blackbirds-unident.	---	10000	8500	---	---	---	---	---	---	---
Cowbird	550	20	268	---	30	---	---	---	---	30
Cardinal	390	488	182	35	128	69	56	64	65	42
Purple Finch	16	113	2	2	2	3	21	12	90	19
Pine Siskin	---	---	---	---	4	---	---	---	---	---
Goldfinch	157	309	15	11	45	199	118	59	12	63
Red Crossbill	---	---	---	---	1	---	---	---	---	---
Red-eyed Towhee	107	165	1	2	3	5	2	19	10	8
Savannah Sparrow	1	8	4	---	5	---	6	---	---	---
Leconte's Sparrow	---	3	---	---	---	---	---	---	---	---
Vesper Sparrow	---	---	---	---	---	---	7	---	---	---
Junco. Slate-col.	181	840	87	27	218	96	25	8	61	29
Tree Sparrow	---	---	13	---	---	---	3	---	---	---
Field Sparrow	90	156	47	42	79	76	21	67	26	60
White-crown Sparrow	83	18	2	15	---	28	29	2	---	37
White-throat Sparrow	116	854	74	18	22	46	12	26	8	---
Fox Sparrow	4	21	3	3	---	7	---	5	---	---
Swamp Sparrow	8	82	6	28	---	1	---	13	9	---
Song Sparrow	94	198	55	17	40	38	14	11	12	36
Lapland Longspur	---	180	---	---	---	---	---	---	---	---

as Savannahs were stalked for some time and bore the resemblance to this species in markings, deportment and in habitat chosen.—Clarksville.—The Phoebe was up in high trees on top of Red River bluff, apparently catching insects in the air at that elevation. The Vultures were travelling in a long "procession," presumably in search of upward air currents along the river bluffs. First seen were about 80 Blacks and a bit later, an equal number of Turkey Vultures.—Murfreesboro.—No opportunity was had to visit the Crow and the blackbird.—Starling roosts reported to be present in this general area.

LOCALITIES, WEATHER AND PERSONNEL

Nashville.—Dec. 22. (Radnor Lake, Overton Hills forest, Leawood, Hobbs to Tyne roads and Richland creek, Warner Parks, Bellemeade, 101 pasture, Davidson road, Hillwood, River road, Bell's Bend of the Cumberland river and Jordonia.) 25% open fields, 20% dense woods, 30% wooded pastures, 30% thickets and old-fields. 7 a.m. to 4:30 p.m. (owls heard later). Clear all day and visibility fine. Temp. range 26-35 degrees F. Very little wind. Ground bare (no snow this season). 23 observers in 9 parties. Total party hours 56. Party miles, 31 on foot and 45 by car. B. H. and Mrs. Abernathy, Thomas Barr, H. G. Bradley, Bill Crouch, Albert F. Ganier (compiler), Robert M. and Mrs. Hawkins, Amelia R. Laskey, Arthur McMurray, George R. and Mrs. Mayfield, Donald Maynard, J. A. Robins, E. D. Schreiber, Robert Sollmann, Walter R. Spofford, Luttrell Thomas, Harry S. Vaughn, William M. and Mrs. Walker, and George B. Woodring.—Memphis, Dec. 22. Same area as in previous 10 years, not covering Mound City chute, N. 2nd St., road north of Wolf River, Mud Island, and no one up Miss. river in boat. Our only tract of pine woods

was cut off about 1943, also south end of Mud Island entirely cleared of trees and some suburban sections built up. Old coverage adhered to, preparatory to some change for subsequent years. Wooded bottomlands, 45%; deciduous woodlots, 20%; airports, pasture and old cottonfields, 15%; suburban roadsides, 20%). 6:45 a.m. to 4:45 p.m. Sunny; muddy; calm, in p.m. 5 to 15 m.p.h. south wind; temp., 30 to 61 to 58 above. Twenty-seven observers in eight parties, the three main parties breaking up variously at localities worked. Total party-hours, 88; total party-miles, 50 on foot and 110 by auto. Ben B. Coffey (compiler), Mrs. Coffey, Mrs. Floy Barefield, Fred T. Carney, Herbert Clark, Mrs. Irene R. Daniel, Mary Davant, Mrs. Ruth Harrison, Bill Heard, Luther F. and Mrs. Keeton, Lawrence C. Kent, Franklin McCamey, Jr., Jim McWhorter, Clarence E. Moore, Patricia Moore, Joe Mount, Eugene Parish, Albert L. Powell, Ella Ragland, Mrs. Sarah O. Rogers, Grady Sanders, Alice Smith, Demett Smith, Mrs. M. L. Torti, Maurice Torti, Rose Woolridge and Alan Zeigler.—Reelfoot Lake.—Dec. 25 (including Miss. river at Tiptonville, thence along south shore of lake by road to Samburg, to Walnut Log and on highway 78 to Ky. line). 6:50 a.m. to 3:30 p.m. Fair; light wind in p.m.; temp. 33 to 57. Observers together in auto 45 miles with occasional short stops; island along S. side of Upper Blue Basin under water thus eliminating a 3 mile walk as in 1940. Mr. and Mrs. B. B. Coffey, Jr., Herbert Clark and Alan Zeigler (all of Memphis).—Henderson.—Dec. 21. (Same route as in previous years, including vicinity of Henderson, 2 miles east to Chickasaw Park west, including Lakes LaJoie and Placid). 8:00 a.m. to 5:00 p.m. Fair; brisk north wind; temp. 35-50; 5 miles on foot and 45 by car. Robert L. Witt, Freed-Hardeman College (compiler), William Malone and Bill Tarpley.—Great Smoky Mountains National Park, Tenn., Dec. 29. (Same area as in past 9 years; circle of $7\frac{1}{2}$ mile radius centering on Bull Head of Mt. LeConte, including a section of the Tennessee-North Carolina divide from Collins Gap to Mt. Kephart; towns of Gatlinburg and Pigeon Forge; spruce-fir forest, 35%; open farmland, 30%; town and suburbs, 20%; abandoned fields, 10% and deciduous forests, 5%. Dawn to dusk. Heavy rain throughout a.m., clearing in p.m. Temp. 50 to 70 degrees F. Wind occasionally strong but mostly moderate; ground bare and wet at all altitudes; streams running full. Altitude range, 1200 to 6000 feet. 21 observers in 8 parties. Total party-hours, 42; total miles, 135 (100 by car, 35 on foot). Mr. and Mrs. Harvey Broome, Mary Ruth Chiles, Brockway Crouch, Edward Dougherty, Mr. and Mrs. R. J. Dunbar, Harry Henry, Elizabeth Johnson, William M. Johnson, Mr. and Mrs. Robert Monroe, Elise Morrell, W. F. Pearson, Norman Russell, Dr. and Mrs. Royal E. Shanks, Arthur Stupka (compiler), W. A. Sutherland, Paul Yambert and William Yambert. (Members and guests, T. O. S. and National Park Service).—Elizabethton.—Dec. 22. (Area of $7\frac{1}{2}$ miles radius about town, including Valley Forge, approx. 4 miles S. of Elizabethton, Watauga River banks, and bottoms s.e. to n.w. of town, Wilbur Lake, foot of Iron Mtn., north slope of Holston Mt., Buffalo, Dry and Gap creeks, hills s. and e. of Milligan College, Golf Course surroundings, Parkway Blvd., and Allen Ave. extensions. Stream courses, 25%; lake shore, 5%, deciduous woodlots, 35%; fields, pastures and thickets, 30%; city suburbs, 5%. Dawn to dusk. Cloudy in early morning, clearing by noon. Temp. 30-50 degrees F. Wind NNW, 12-18 m.p.h. Ground bare but for traces of preceding night's snow. 11 observers in 10 parties. Total party-hours, 38. 30 miles on foot, 16 by car. Fred W. Behrend (compiler) and

Mrs. Behrend, J. C. Browning, Miss Mary Cook, Mrs. Hugo Doob, Dr. and Mrs. Lee Roy Herndon, Prof. S. J. Hyder, Mrs. George K. Leonard, (Elizabethton Chapter members); W. F. Pearson, Kingsport and Dr. James T. Tanner, Knoxville.—Greenville.—Dec. 28. (David Crockett Lake area, River Hill, golf course, Reed farm along Roaring Fork creek, Tusculum College campus and surrounding area.) 65% open fields, 25% woods, 10% stream banks. Dawn to dusk. Misty with intermittent rain. Temp. 50-60 degrees; no wind. Six observers in four parties. Party-hours, 20; total miles, 38 (8 on foot, 30 by car). Mrs. Willis Clemens, Mr. and Mrs. Richard Nevius (Mrs. Nevius compiled), Mr. C. M. Shanks, Mr. and Mrs. J. B. White.—Clarksville.—Jan. 5. (Gracey Ave., thence along T. C. Ry., up along Cumberland River to Marx Slough, returning by same route. Much of bottoms cut off by high water.) 16½ miles on foot. 7:30 a.m. to 4:30 p.m. Sky heavily overcast in a.m., partly clear in p.m. Temp. around 26 degrees. Wind light. Eddy Clebsch, Alfred Clebsch, Jr., and Alfred Clebsch (compiler)—Clarksville.—Jan. 12. (Including Dunbar Cave and Lake, P. A. Meriwether farm in a.m.; Red River Sheep Farm in p.m.) 30 miles by car, 3 on foot. Sky heavily overcast; no wind. Dr. and Mrs. C. F. Pickering, H. C. Phillips, Eddy Clebsch and Alfred Clebsch (compiler).—Murfreesboro.—Dec. 22. (Suburbs of the town and a short distance into the country.) Henry O. Todd and George Davis (compiler).

THE ROUND TABLE

A JUNE LIST FROM THE SMOKY MOUNTAIN SUMMITS.—On the early morning of June 20, 1933, the writers parked their car at Newfound Gap (5040' elev.), followed the 8 mile trail along the summits to Mt. LeConte (6593'), spent the night there and consumed the following day in returning by the same route. While we gave our almost undivided attention to the birds, our total list was only 27 species, but from past experience we knew this to be an excellent two-day total to compile along these high, wholly timbered summits. Since the list may be useful for comparison and for future reference, we present it here. (A more comprehensive list, for a longer stay, may be found in THE MIGRANT for Sept., 1938, pp. 41-45.)

Turkey Vulture, 1; Red-tailed Hawk, 1; Broad-winged Hawk, 2; Duck Hawk, 1; Ruffed Grouse, 3 (also young); Saw-whet Owl, 1 (see note immediately following); Chimney Swift, 7; Hairy Woodpecker, 8; Blue Jay, 4; Chickadee, 8; Red-breasted Nuthatch, 12; Brown Creeper, 2; Sou. Winter Wren, 15 (also nest from which 5 young flew); Robin, 6; Veery, 9; Golden-crowned Kinglet, 7; Cedar Waxwing, 3; Red-eyed Vireo, 1 (at Gap, 5040'); Mountain Vireo, 12; Cairn's Warbler, 11; Black-throated Green Warbler, 10; Blackburnian Warbler, 1; Chestnut-sided Warbler, 12; Scarlet Tanager, 1; Red Crossbill, 5 (at 3 locations); and Towhee, 4.—ALBERT F. GANIER and G. R. MAYFIELD, Nashville, Tenn.

ADDITIONAL RECORDS OF THE SAW-WHET OWL.—Reference in the above list to a sight record of this species (*Cryptoglaux acadica* subsp.) on Mount LeConte, June 20, 1933, calls for further details. Dr. Mayfield and the writer, after supping at the little lodge on the summit, strolled about in the surrounding area until dark and while doing so, flushed a little owl from a low snag at the edge of the clearing. It disappeared into the spruce-fir timber and

could not be found again. Realizing that Screech Owls would not likely be found at this high altitude and that the bird was probably a Saw-whet, the writer secured his collecting gun and waited about for more than an hour in hopes the bird would return. It was not seen to do so. The type specimen of this species was obtained in Nova Scotia and it is likely that specimens from this extreme southern limit of its breeding range would differ materially. The above date was prior to the creation of the National Park and during that period, Paul Adams of Knoxville had acted as keeper of the old log lodge through one or more seasons and kept notes on the birds he observed. He told me later that he had on several occasions seen small owls at dusk but the light was not sufficient to enable positive identification. On one occasion, one of them flew about him snapping its bill in protest to his presence.

Mr. Stupka's excellent article in this issue makes it now advisable to place the above on record as well as that of two others elsewhere. On Dec. 15, 1927, a live Saw-whet Owl was purchased from a countryman in the Knoxville city market. It had probably been injured for it did not live and it then came into the hands of Dr. Earl Henry who mounted it. The writer searched the Henry collection for it last summer but was unable to find it. In Middle Tennessee, near Thompson's Station in Williamson County, Mr. W. H. Sedberry obtained a Saw-whet during the winter of 1943. Being a taxidermist, he mounted the bird and I obtained it from him in 1945.

Records of two other occurrences of this rare little owl may be found in THE MIGRANT for 1936, p. 19 and 1940, p. 4. The first, by B. B. Coffey, is of one at Memphis on March 1, 1936, and the other is of one captured at Nashville on March 16, 1940. The latter came into possession of Mrs. Amelia R. Laskey who kept it for a time for observation, then banded and released it.—ALBERT F. GANIER, Nashville, Tenn.

BLUE GROSBEEK IN GREAT SMOKY MOUNTAINS.—In view of Dr. Lee R. Herndon's report (MIGRANT, June, 1946, p. 26) of finding a Blue Grosbeak (*Guiraca caerulea*) near Elizabethton on May 4, 1946 (printed 1936 through error) and his remark that this represented the first Tennessee record east of Nashville, I wish to state that on May 4, 1943, I observed a bird of this species on the lawn in front of our Park Headquarters building, about two miles south of Gatlinburg. The chestnut colored wing patches were seen to good advantage. This represents the first (and only) record of the Blue Grosbeak in Great Smoky Mountains National Park.—ARTHUR STUPKA, Park Naturalist, Gatlinburg, Tenn.

WILD TURKEYS ON THE CUMBERLAND PLATEAU.—During the early summer of 1906, while surveying coal lands in Van Buren County, Tenn., we found 5 nests of the Wild Turkey in one tract of 500 acres. In all, we saw several hundred of the birds. This locality was a few miles south of Spencer, south and east of Dry Fork Gulf. I was in this locality again in 1930 and at that time saw a flock of about 20 of these birds. It is the finest range for turkeys that I have ever seen and lies just west of Falls Creek State Park.

During 1940, on about 2,000 acres of high swamp land along the Roanoke river in Bertie County, eastern North Carolina, I found 9 of their nests yet saw no turkeys other than the incubating birds we flushed. I sincerely hope the Tennessee turkeys are protected.—HOWARD WISWALL, 10 Watauga St., Asheville, North Carolina.

OBSERVATIONS AT REELFOOT LAKE.—During the middle of December, 1946, I spent two days at Reelfoot and one of the interesting sights noted was that of the great swarms of blackbirds (Redwings, etc.) that came to roost in the evening and would leave for their feeding grounds the next morning. It was a thrilling sight. From a half hour before and until after sunset, wave after wave came in and settled down for the night in the "saw-grass." They numbered well into the hundreds of thousands. I was out on the lake before daylight and when we pushed the prow of the boat into the saw-grass, a score of the birds were almost knocked into the boat. They fluttered about and settled down again a few feet away.

While sitting still in the boat, after it had been pushed well into the saw-grass, a Short-billed Marsh Wren was observed to hop about, from grass blade to grass blade, and finally into the boat only a few feet from where I sat. There were not as many water birds as I had expected, Coots being the most numerous. There were a few long flights of ducks high overhead; of those which came near enough to be recognized, seven species were identified.—ROBERT J. DUNBAR, 106 Glendale Lane, Oak Ridge, Tenn.

WINTER BIRD COUNT AT MOON LAKE, MISS.—The following census was made on Dec. 29, 1946, in the vicinity of Moon Lake, near Lula, which is 55 miles southwest of Memphis. The same route was followed as in 1940 and in 1941. Those participating besides the writer were Mrs. Coffey, Fred T. Carney, Herbert Clark, Demett Smith and Alan Zeigler. Lake from short-line drive, 35%; levee, 5%; narrow bayou, timbered, 5%; highway and old cotton fields and pasture, 35%; weedy fields, 10%; and low wooded bottoms, 10%. 7:15 a.m. to 5:00 p.m. Overcast to noon, then cloudy; fields full of water from night's storm with wind at 30 m.p.h. Temp. range 32-52; wind fresh. 25x telescope used on water birds in addition to 8x and 10x binoculars.

Horned Grebe, 2; Pied-billed Grebe, 3; Double-crested Cormorant, 143; Great Blue Heron, 2; Mallard, 41; Black Duck, 1; Amer. Pintail, 2; Ring-necked Duck, 15; Canvas-back, 2; Lesser Scaup, 4; Bufflehead, 1; Ruddy Duck, 774; Turkey Vulture, 3; Black Vulture, 23; Red-tailed Hawk, 5; Marsh Hawk, 5; Sparrow Hawk, 9; Bob-white, 9; Coot, 16; Killdeer, 131; Wilson's Snipe, 1; Herring Gull, 16; Ring-billed Gull, 55; Bonaparte's Gull, 1, immature (chased by other gulls, small size readily apparent to all, white wings, etc., noted at 150 yards by Carney and Mrs. Coffey); Mourning Dove, 46; Barred Owl, 1; Belted Kingfisher, 1; Flicker, 8; Red-bellied Woodpecker, 13; Yellow-bellied Sapsucker, 2; Hairy Woodpecker, 1; Downy Woodpecker, 4; Phoebe, 1; Blue Jay, 16; Crow, 5; Carolina Chickadee, 16; Brown Creeper, 1; Winter Wren, 4; Mockingbird, 9; Brown Thrasher, 5; Hermit Thrush, 5; Bluebird, 5; Golden-crowned Kinglet, 26; Ruby-crowned Kinglet, 13; Amer. Pipit, 15; Shrike, 18; Starling, 890; Myrtle Warbler, 33; English Sparrow, 91; Meadowlark, 114; Redwing, 46; Bronzed Grackle, 25; unidentified blackbirds, 240; Cardinal, 101; Purple Finch, 1; Goldfinch, 11; Towhee, 11; Savannah Sparrow, 56; Slate-colored Junco, 15; Field Sparrow, 36; White-throated Sparrow, 250; Fox Sparrow, 41; Swamp Sparrow, 27; Song Sparrow, 94; and Lapland Longspur, 12. Total, 65 species; 3583 individuals.—BEN B. COFFEY, 673 N. Belvedere, Memphis 7, Tenn.

NOTES, HERE AND THERE

The Evening Grosbeaks, which last winter made such a memorable stay in Elizabethton, have not been found there at all this winter, according to Mr. Behrend. They have thereby lived up to their reputation of being perhaps the most erratic of all winter visitants from the far north. In West Virginia, where they were recorded last winter in a number of places, we learn from Prof. Maurice Brooks that they are likewise absent.

The big bird roost near Martha, Tenn., described in our Dec., 1945 issue, continued during the present winter in nearly equal volume but with the exception that very few Robins were present. Last winter's immense Robin roost in West Nashville was nearly devoid of birds the present season. A total failure of the hackberry crop is responsible for the scarcity of Robins.

Donald M. Maynard, secretary of the Nashville chapter, T. O. S., was recently named as one of the finalists in the Westinghouse Science Talent Search, thereby winning for himself a scholarship through which he expects to prepare himself for biological research.

With this issue, we complete another block of three volumes and the twelve issues, with title page and species index at end, when bound will make another interesting and usable book for one's library. Those who may perchance have lost any issues may secure replacements from the retiring editor at 25 cents each. Arrangement has been made with the Nashville binder who bound about 30 sets three years ago, to bind in buckram (cloth) at \$2.25 per book.

We are sometimes asked where and to whom THE MIGRANT circulates. Briefly, it has a very loyal group of readers scattered far and near. In Tennessee, there are approximately 235 T. O. S. members; outside the State there are 94 (scattered from Maine to California); of subscribers among libraries, museums and kindred institutions, there are 32; complimentary and exchanges, 25; making a current total circulation of 386.

To the list of libraries, etc., published in our issue of March, 1943, there has been added, University of California Library, at Los Angeles; La. State Univ. Library, Baton Rouge; University of Mississippi Library; Ohio State Univ. Library, Columbus; Pikeville College Library, Pikeville, Ky.; Murray State Teachers College, Murray, Ky.; and Howard Tilton Memorial Library of Tulane University at New Orleans. Many of these institutions have taken pains to secure complete files and to have them bound. These, together with similar files in the hands of our members, give a permanent accessibility to our contributions that is highly gratifying.

No complete membership list has been published since June, 1938, although supplemental lists were published in June, 1941 and March, 1943. A complete revised list would require 8 pages and we have thought it best to use this space for reading matter.

As we go to press, we learn with deepest regret of the death of William M. Walker, on Jan. 23 at Nashville, in his 47th year. He was a most loyal T. O. S. member and for many years a contributor to this journal. A biographical sketch of him is being prepared for next issue.

OUR NEW OFFICERS

A letter from President Herndon, dated Jan. 16, 1947, announces the result of the election of officers by the Board of Directors to replace those who have recently resigned, as follows:

Editor—Dr. James T. Tanner, Dept. of Zoology, University of Tenn., Knoxville. Secretary—Mr. Fred W. Behrend, 606 West "D" Street, Elizabethton, Tenn. Treasurer—Mr. Lawrence C. Kent, 1896 Cowden Avenue, Memphis 4, Tenn.

By way of introduction, our new Editor is Assistant Professor of Zoology at the State university, having recently accepted that post since removing from Johnson City where he had held a similar position with the East Tennessee State College since 1940. During World War II, he saw service with the armed forces as an officer with the Naval Reserve Corps. Dr. Tanner is a graduate of Cornell University, B.S. '35 and M.S. '36, having majored in ornithology under the capable guidance of Dr. Arthur A. Allen. Following this, he accepted a fellowship with the National Audubon Society to study the Ivory-billed Woodpecker and possibilities for its conservation. His excellent monographic report was reviewed in *THE MIGRANT* for March, 1943. With such basic preparation and from his "eyrie" at the State university, our new editor comes to us well equipped for his task.

Secretary Behrend, already known to our readers through his contribution to this journal, has been one of the enthusiastic mainstays of the new Elizabethton chapter. Both he and Mrs. Behrend are active field workers and as a pastime have hiked over most of the mountain summits in that section. In addition to being a "bird-man," he is also a successful outdoor photographer. Mr. Behrend is connected with the executive offices of the American Bemberg Corporation and North American Rayon Corporation.

Mr. Kent joined us in 1937 and has been one of the standbys of the Memphis chapter, having served as its Treasurer and its President as well as being an active participant in field days, census listings and other activities. On the occasion of our Annual Meeting at Nashville last June, he was elected vice-President for West Tennessee of the State organization. Mr. Kent is connected with the Power and Light Division of the city of Memphis. No doubt ere this our new Treasurer is in a highly receptive frame of mind toward any 1947 dues that may have been overlooked or held back by reason of uncertainties or otherwise.

This reminds us, that in announcing the new officers in our issue of last June, we failed to say a word of introduction regarding our new President. Dr. Lee Roy Herndon is head of the chemical laboratory of the North American Rayon Corporation of Elizabethton and for many years has made ornithology his avocation. A native of Kentucky, he received training for his profession at Maryville College, B.A. '22 and The Johns Hopkins University, Ph.D. '28, having majored in organic chemistry. He then became research chemist for The E. I. DuPont Company and until he went with North American in 1943, he resided in the vicinity of Buffalo, N. Y. Dr. Herndon is serving us actively and efficiently as president and has participated in field work, in contributing to our journal, and in other of the Society's activities.

REPORT OF THE AUDITING COMMITTEE

An auditing committee, appointed by President Herndon, composed of W. M. Walker, Jr., Dr. W. R. Spofford and the writer, examined the records and accounts of retiring Treasurer Alfred Clebsch. A detailed report was submitted to President Herndon. It was found that Mr. Clebsch filled this office for nine years, handling \$3,285.94 during that period. His records and accounts were full and complete, kept in a neat and painstaking manner and in accordance with recognized business principles. The accounts were verified and a balance of \$261.86, together with pertinent records was transmitted to the new Treasurer, Mr. Lawrence Kent. We wish to commend Mr. Clebsch for the fine service he has rendered the Society during these years.

HARRY C. MONK, *Chairman.*

CURRENT FINANCES OF THE SOCIETY

For the information of T. O. S. members, the Editor has compiled the following further data regarding the Society's financial status. It includes figures taken from the retiring treasurer's detailed report, which was audited as of Dec. 6, 1946, together with mention of additional funds added later, money due on accounts, and funds still in the hands of committees. Due to rising costs, it can readily be seen that the Society is in need of more revenue.

Balance on hand from 1946 gifts, dues and subscriptions.....	\$ 71.12	
Back number sales account (by A. F. G.), 1940 to date.....	112.34	\$183.46*
Amounts due for 1946 advertising and back numbers, approx.		28.00
Grant from Tenn. Audubon Society (int. on its endowment)...		50.00
Approximate total applicable to 1946 expense.....		\$261.46
Cost of September Migrant (bills outstanding), incl. postage..	.94	
Est. cost of Dec. Migrant and index, incl. postage.....	.96	190.00
Estimated surplus to carry over.....		71.46
Prepaid dues for 1947 and beyond, as of December 6.....		28.40*
The following items are available for the T. O. S. Endowment Fund:		
Amount in hands of B. H. Abernathy, chairman (approx.)..		210.00
One life membership, turned over by retiring treasurer to Mr. Kent		50.00*
Conrad Jamison Memorial Fund (incomplete), W. R. Spofford, chairman		30.00

*The three items, \$183.46 plus \$28.40, plus \$50.00, make up the retiring treasurer's remittance check of \$261.86.

The 1946 gifts were as follows: Mr. and Mrs. Behrend, \$10; B. P. Tyler, \$9; John Hay, \$5; Mrs. R. W. Harris (deceased), \$10; Knoxville chapter, \$11; and Memphis chapter, \$14.50.

ERRATA.—In Sept., 1946, issue, page 34, line 23 (in biographic sketch of Clarence E. Collier), read "fighter pilot" for "fighting pilot." In June, 1946, issue, page 20, line 1, read "1946" instead of "1936." In Dec., 1945 issue, page 60, show 173 Field Sparrows in the Nashville list.

THE MIGRANT

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PUBLISHED BY THE TENNESSEE ORNITHOLOGICAL SOCIETY

Free to members. To subscribers, \$1 per year; single copies 30c.

PLEASE NOTIFY THE TREASURER OR SECRETARY OF A CHANGE IN ADDRESS

Fred W. Behrend, Secretary, 606 West "D" St., Elizabethton, Tenn.

Lawrence C. Kent, Treasurer, 1896 Cowden Ave., Memphis 4, Tenn.

All items for publication should be sent to

Albert F. Ganier, Editor, 2112 Woodlawn Drive, Nashville 5, Tenn.

The Tennessee Ornithological Society was founded, October 1915.

Publication of THE MIGRANT was begun, March 1930.

*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

RETROSPECTIVELY

As previously announced, the writer is here closing his work as Editor, after a long connection with and no small devotion to this little journal. It is his sincere wish that our activities go smoothly on and that our members extend to his successor their heartiest cooperation.

At a shelf on my right, and extending seven inches along it, are seventeen volumes of THE MIGRANT. The time, the thought, and I might add, "the midnight oil" that has been expended to produce that array of information on Tennessee birds cannot easily be realized. It has been a most interesting task however for the Editors, at times arduous it is true, but the satisfaction of having helped many new or young observers to get upon a sound ornithological footing, has brought satisfaction as a reward. Aside from being a repository of substantial information about birds of this State, as official organ of the T. O. S. it has been the "tie that binds" and welds the widely scattered membership into a whole. Through its columns we have learned to know each other and many firm and lasting friendships have resulted. When bird enthusiasts get together, there seems never time for a pause in the conversation and so our organization has brought its social rewards as well.

The field of bird study is quite inexhaustible and to each who enter it there is the same succession of experiences in learning the ways of birds that captivated Wilson and Audubon more than a century ago. For these and other reasons, the T. O. S. and its work is never in sight of an end. As to the writer, no end to his work is planned either for he has a larger project in view and with which he will acquaint our membership later.

In closing this volume, I wish to express thanks to Mrs. Amelia R. Laskey for assisting with the proof reading, to Harry C. Monk for preparation of the three-year index, to Alfred Clebsch for capably handling the finances, to our President and other officers, and finally, to those who have generously contributed their time to write articles with which to fill these pages.

ALBERT F. GANIER.

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In general, subspecies are ignored unless authors specifically state that the names used are based on collected specimens determined by a competent authority. Certain exceptions have been made, e.g., Juncos, Grackles, Water-thrushes, etc.

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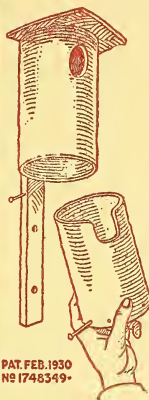
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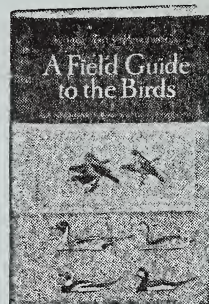
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IN MEMORIAM—WILLIAM MASSIE WALKER, JR.

By HARRY C. MONK

In the passing of William Massie Walker, Jr., the Tennessee Ornithological Society has lost one of its oldest, most loyal and accomplished members. This loss is the more distressing because he was in the prime of life.

He was born September 20, 1900, on a farm a few miles east of Hopkinsville, Ky., where he grew up, taking a boy's active part in farm life, and enjoying an unusually fine family life. There were three brothers and three sisters. "Bill" he was invariably known to all, enjoyed the sports of the countryside, was fond of hunting and was an expert shot.

He attended public schools in the county and in Hopkinsville, and in 1920 entered Vanderbilt University, remaining five years, taking a B.S. degree in 1924 and the M.S. in 1925. His major was chemistry. After graduation he worked as a chemist in the laboratories of the Division of Tests of the State Highway Department in Nashville, remaining there until 1934.

In Vanderbilt, Walker met Dr. Mayfield who was always on the lookout for young men interested in the outdoors. Field trips followed and on February 17, 1922, Bill attended a meeting of the Nashville chapter, joining the society at that time. He attended meetings regularly, and devoted spare time to bird walks and field trips. Already familiar with the more prominent birds of our southern countryside, it was relatively easy for him to round out his field knowledge of the birds of this section. On Nov. 12, 1926, he was elected secretary-treasurer of the Nashville chapter, serving three years.

In March, 1934, Walker moved to Knoxville to work in the newly organized TVA laboratories; this move was in the nature of a "loan" to last one year; it actually lasted ten years. These Knoxville years were doubtless the happiest of his life. Marriage to Miss Sue Roberts, of Nashville, in August, 1935, was followed with the establishment of a home in Knoxville. The Walkers were active in the Knoxville chapter; Bill was president in 1926 and later served as secretary-treasurer and several terms as curator. From 1939-45 he was regional editor of THE MIGRANT for the Knoxville area. In 1939-40 he was state President of the T. O. S.

Prof. Henry Meyer, a close associate of these days, has written:

"From the time of our first meeting in September, 1937, until his departure for Nashville in 1945, we spent many pleasant hours afield together. Bill helped me immeasurably with the ornithology classes at U.T. and I know that the attitudes he helped me inculcate in the students improved their field work.

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"Bill Walker was a chemist by vocation. As a worker in an exact science he realized the importance of careful observation, accuracy in reporting facts, and cautious analysis of data. Because he applied these methods, essential to an exact science, to his hobby of bird study, he advanced the ornithology of Tennessee. His contribution to the promotion of bird study, however, extends far beyond the publication of the many articles he prepared for THE MIGRANT, for his interest in the study of birds was of the kind that stimulated others to activity.

"In spite of physical handicaps, his was a life of action. He was not a 'fair weather naturalist' for inclement weather could not keep him from (as he would say) 'getting the records'. He displayed the kind of energy and courage, which coupled with patience and honesty, make for accurate field records. Because of these qualities, during the years he lived in Knoxville, he vitalized the activities of the Knoxville chapter of the TOS."

Miss Elise Morrell, of Knoxville, has written, in part:

"The Knoxville branch of the T. O. S. will remember Bill Walker as a tireless worker in all of the club's activities, spreading an interest in birds to all who came in contact with him through his own enthusiasm. The many trips, bird counts, camps, etc. which he attended are some indication, but can hardly be used as a measure of his interest in ornithology, because he had an awareness of birds that existed every minute that he was awake. Trips to and from work, from home to town, anywhere, were all 'field trips.' A keen and persistent observation revealed to him the rare visitant, the new arrival, the chimney swifts' change of roosting places, and things that many others would pass by. . . .

"He helped the Boy Scout and the interested youngster. While keeping count of the chimney swifts and their band numbers he could speak interestingly of bird banding to the casual passer-by who stopped to investigate what was going on. Hardly an issue of THE MIGRANT went to press without some contribution from him. He seldom asked for help in the detailed task of record keeping, which he attended to without complaint."

Anyone who reads the long series of articles he wrote from Knoxville will find reflected there his deep interest in the water birds of Andrew Jackson Lake, and in the arrival and departure of birds in the whole region. He reveled in the natural beauty and fascinating bird life of the Smokies. Occurrence records were meticulously kept on cards especially designed for the purpose; the resulting files are possibly the most extensive for the eastern part of our state. In some years he took part in as many as three Christmas census counts, which he valued for their record of winter bird life.

In 1932 he contributed his first article to THE MIGRANT, a table of the first seventeen Christmas censuses at Nashville. In 1935 his first note from Knoxville appeared, written in collaboration with George Foster. Thereafter thirty-three additional articles appeared, totaling in all thirty pages, and

placing on record a substantial amount of data for the Knoxville region. Henceforth, anyone who studies the bird life of that region will be indebted to him, as well as to those who cooperated with him in gathering field records. In thus publishing the gist of his observations he has set all of us a good example, for the data is preserved for all time, rather than being lost as it might have been.

Major events now entered his life. On July 8, 1941 a son, William Massie III was born. In December, 1942, there first appeared signs of what became a very severe illness, followed by a long convalescence. After 25 months he returned to work, this time back in the Highway Department in Nashville, in July 1945. Never in robust health, he was now in a greatly weakened condition and carefully husbanded his strength. Field trips could last but a few hours, but they were made to count. He explored the suburban area about his home, and studied the big roost in West Nashville, contributing an account of it (MIGRANT, 1946, pp. 11-12) which is typical of his careful work.

I made several field trips with Bill in this period. I found he had a keen ear, and a good knowledge of bird songs and calls; his eye missed little that transpired in the woods, and he had the book knowledge and field experience to make a well-rounded, thoroughly competent field observer. He told me frankly of his impaired health and the realization he had but a few years to live at best. As Christmas, 1946, approached careful plans were laid to take part in several census trips. A much hoped for trip to the Smokies had to be abandoned, but a trip to the old home in Kentucky on December 20 was carried out. There we spent some hours both morning and afternoon, listing the birds of the farm and countryside. He had made these census trips in this area for years, publishing them in the "Kentucky Warbler." As we moved over the familiar acres Bill recounted many incidents out of the past. Every field and woodland had its memories for him.

The Nashville census on December 22 was his last field activity with our group. Early in January a cold bothered him. It was indicative of his weakened condition that this became pneumonia; hospitalization was necessary and other complications set in. He passed away in the early morning hours of January 23, 1947. Burial was in the family plot in Riverside cemetery, Hopkinsville. This was most appropriate for while he had made Tennessee his own state there was never any doubt where his heart lay.

He is survived by his wife and son, his parents, Mr. and Mrs. W. M. Walker, Sr., of Hopkinsville, and by three brothers and three sisters.

William Walker, Jr., was a long time member of the Kentucky Ornithological Society, and attended its meetings and contributed to its publication. He also belonged to the American Ornithologists Union, the Wilson Ornithological Club, and the Tennessee Academy of Science, as well as several chemical organizations. All of his bird publications appeared in THE MIGRANT and "The Kentucky Warbler." Some of the Christmas counts

he took part in have appeared in "Bird-Lore" and the "Audubon Magazine." While in Vanderbilt he took several courses in geology, and maintained a life-long interest in that subject. He accumulated a creditable collection of fossils as a by-product of field trips.

Handicapped from birth, Bill Walker met obstacles every waking hour of his life. These he overcame, seeming to ignore them, and in so doing displayed the rarest, highest type of courage, which was all the more remarkable because of the modest, unassuming manner in which he mastered difficulties. On his death-bed, facing the unknown, he said, "I am not afraid." Of course not! When was he ever afraid? How often have his friends remarked, "Courage is the name for Bill Walker."

He is gone a little ahead of the rest of us, leaving behind the record of his work, and the example of his life, for us to use and profit by. Let us honor his memory more with deeds than with words.

406 AVOCA ST., NASHVILLE, TENN.

EDITOR'S NOTE—A brief article written by William Walker some time before his death is printed in The Round Table of this issue.—J.T.T.

THE HOLSTON RIVER VULTURE ROOST

By JAMES T. TANNER

Every afternoon numbers of vultures congregate on a large bluff on the Holston River in northeastern Tennessee. Turkey Vultures (*Cathartes aura*) and Black Vultures (*Coragyps atratus*) soar in from all directions to light on the bare rock of the bluff or in the trees at the top; they meet there just before going to their nightly roost. Vultures at close hand are probably the ugliest of birds; but their wide-winged flight is graceful, and the number of them soaring and circling in to the face of the bluff is a beautiful and lively sight.

The bluff visited by the vultures is located on the South Fork of the Holston River, in southern Sullivan County, and is two and three-quarters miles in a straight line upriver from the bridge that carries U. S. Route 23 across the Holston. It faces southeast, the river at its foot. It is labelled "Dorn Bluff" on the topographic map of that area published by the Tennessee Valley Authority, altho "buzzard's bluff" would be a better name.

The bluff itself is slightly more than one half mile long, low at both ends and rising toward the center to a maximum height of 330 feet above the river. The lower one-third to one-half of the bluff is a talus slope of large rocks thinly covered with deciduous trees. Above this slope the cliff rises almost perpendicularly with a few set-backs and irregular ledges to the crest, which is rimmed with trees. A few juniper and other trees cling to the face of the cliff; except for these and a little grass on the ledges, the gray and reddish-brown rock of the cliff is bare. The face of the cliff is marked by the opening of a cave and several deep cracks and fissures,

some of which are probably used by vultures during their nesting season. At the foot of the cliff and in the middle of the river is a small, heavily wooded island. The surrounding country is of hilly fields and pastures with numerous small patches of woods.

The number of vultures coming to the bluff has varied from a low count of 25 to a high of between 200 and 250. The observations made at the roost during 1946-47 indicate a regular seasonal variation, but a few records of another year do not confirm this.

On March 24, 1946, there were counted 75 Turkey and 20 Black Vultures; on June 22, 10 Turkey and 15 Black; on September 9, 100 Turkey and only 4 Black; on October 26, 1946, 140 Turkey and 60 Blacks; and on February 18, 1947, Dr. L. R. Herndon with other members of the Elizabethton chapter of the T. O. S. visited the bluff and estimated a total of 250 with "the ratio . . . just about as we had observed" on October 26, or about 175 Turkey and 75 Black. These figures would indicate that the fewest vultures came in June, and from then the number increased to a maximum sometime during the winter. In 1941, however, the highest number was recorded on June 5 — 100 Turkey and 30 Black, and the lowest on Sept. 28, 20 Turkey and 6 Black. There are certainly other factors than season controlling the numbers of vultures visiting the bluff, but my observations are too few to give any clue as to what these factors could be.

My observations of the vultures were made on picnics and field trips taken to the area by my family and groups of friends, the Johnson City bird club, or college zoology classes. The bank of the river across from the bluff could be reached in a car by a narrow road. That spot made a good and pleasant observation post. Across the river lay the wooded island, and beyond that the bluff rose impressively from the trees on its lower slopes. Because of the width of the river and island and because the vultures perched near the very top of the bluff, the distance to them was rather great. That distance made identification of the vultures on the rocks and trees difficult, but it created a wide view and allowed us to better watch their movements because their flight was silhouetted against the sky.

The earliest in the afternoon that I ever arrived across the river from the bluffs was two and a quarter hours before sunset, and by then there were already several vultures of both species on the cliff and in the air nearby. From that time on their activities followed a fairly regular pattern. The number of vultures mounted as new arrivals came in, apparently from all directions. Turkey Vultures approached singly or in small groups, rather slowly because of their wheeling and soaring flight. Frequently small groups of them circled over the bluff, or sailed back and forth in unison before the face of the cliff, from one end to the other and back. The Black Vultures, in contrast, came in much more directly, gliding swiftly to a perch on the cliff. Usually they came individually, except in March when several of the Blacks approached in pairs. The two members of each pair chased each other thru the air; their swift swoops and abrupt turns made the flight

of the Turkey Vultures appear slow and sedate.

Most of the vultures landed at the very highest point of the bluff where the rocks were rough with several projections and ledges. The two species of vultures appeared to be intermixed, some perching on the rocks, some on the trees near and on the top. A few birds settled to the right or left of this favored spot, and a few part way down the cliff face.

The number of new arrivals and of vultures in the air dropped sharply by an hour before sunset, and soon thereafter the number on the cliff reached its maximum. Usually at about thirty minutes before sunset the exodus from the cliff to the vultures' roosting place began. Gradually they left and flew down to one of two places. The Black Vultures usually preferred some trees on the wooded island at the base of the bluff, and they reached this place simply by swooping down from on high, circling to reduce their speed, and flopping onto a limb with vigorous back-pedaling of their stubby wings. Most of the Turkey Vultures plus some Blacks glided across the river and a field to a small patch of beech woods on a low hill top. Each individual circled a few times before alighting in a tree. There the dozens of birds concentrated in but two to four trees so that the branches were heavily laden with the black forms; silhouetted against the sky the trees appeared completely full of vultures. The flight from the cliff down to the trees was usually over by sunset, the bluff was empty, and the roosting trees were full.

One afternoon my wife and I drove and walked to the northward side of the river and the bluff itself. We explored the talus slope and the lowest part of the cliff, and then circled around to climb the hill behind the bluff thus to reach its top. A few vultures had already flown in to the cliff. We approached cautiously and were able to reach the edge of the cliff without scaring away the birds. But the moment that our heads appeared over the edge, the vultures on the rocks just below left. It was a dizzy sight. They leaned forward and pushed off into thin air, dropping swiftly away from us until their wide wings opened and the birds swung out into a level glide. After this breath-taking (for me) plunge, the broad-winged birds soared back and forth below. Watching them from above gave a totally different impression of their flight than when seeing them outlined from below. Instead of thru the sky, they were sailing over the earth.

When considering the large number of vultures that congregate at this bluff, it is natural to wonder about the distance they travel and the size of the area from which the birds assemble. I have not even an estimate of these figures. The distances and the area must be rather large, as on field trips in the vicinity of Johnson City (about twelve miles from the bluff) the usual number of Turkey Vultures recorded in a half-day is from one to three, while Black Vultures are much less frequently observed.

DEPARTMENT OF ZOOLOGY, UNIVERSITY OF TENNESSEE, KNOXVILLE, TENN.

THE ROUND TABLE

PARTIAL ALBINO RED-TAILED HAWK—On March 8, 1947, along the road just east of Percy Warner Park, Nashville, a large bird was noted perched in a tree, and it was soon identified as a Red-Tailed Hawk. It appeared to be unusually light in color, and as it flew away, its tail appeared to be almost white, with perhaps a dusky band near the tip. Several days later Mrs. Amelia R. Laskey reported seeing the white tailed individual near the same spot. Several years ago the writer saw on several occasions a Red-tail with a white tail within a half mile of the same location, during the winter, and possibly this is the same one returned for another winter.

On that same day another Red-tailed Hawk was seen sitting on her nest, with snow piled high on all sides of her except where her tail appeared in a notch.—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tenn.

GOLDEN EAGLE IN MIDDLE TENNESSEE—Mr. Todd, of Murfreesboro, had reported several times during the winter a rumor of a Golden Eagle. To check on this, the two of us visited a farm in the Auburndale region along the eastern Highland Rim on February 9, 1947. The farmer told us that he had frequently seen an eagle in a steep-walled corrie or ravine, either perched in a tree or circling overhead, and that even though he had sheep and several small lambs, these had been unmolested. His son offered the information that on the previous morning the eagle had been perched on a fence well up in the corrie, and that a week before he had seen one perched and another come down and seem to stoop at it, presumably in play.

As we walked up a path along the sheep pasture, a Red-tailed Hawk flew out, and I confessed to vague feelings of doubt. But a moment later Mr. Todd called "Look!" An immature Golden Eagle was circling close above us, rising slowly and finally passing over a saddle into the next corrie.—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tenn.

WOODCOCK "SINGING" AT NASHVILLE—On March 5, 1947, as I entered my yard in the outskirts of Nashville about 6:00 P.M., I heard the "Peeee-ent!" call of a woodcock coming from the low scrubby growth in the vacant lot behind my house. Closer observation revealed that at least four birds were calling in the four or five acre tract. A peculiar "clock-spring-running-down" sort of note was heard twice, and each time the writer was able to flush a Woodcock from nearby.

On the next evening the same call was heard at regular intervals from two or three spots in the same lot. Also they were engaged intermittently in flight song, flying up and up with a rapid wing-beat, then slowly descending in wide circles with the characteristic "song,"—a rhythmic, rising and falling "tweet,-TWEET,-tweet,-tweet; tweet,-TWEET,-tweet,-tweet" etc.

For the next several days there was a severe winter storm, and nothing further was seen of this group of birds.—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tennessee.

PILEATED WOODPECKER AT FEEDING STATION—Several woodpeckers, including a number of Downy, one Hairy, and one or more Red-Bellied Woodpeckers, regularly feed at each of the writer's two feeding stations. These are located at his home in the Lealand section of Nashville, an outlying residential section near the extensive woods of the Overton Hills. Altho Pileated Woodpeckers pass thru the yard frequently, they had never in five years of observation been seen near one of the feeding stations until recently. On March 16, 1947, I noticed a male Pileated climbing down the ash tree not far from the kitchen window. He stopped at a level of about eight feet, where with many bobs of his head and looks in various directions, he proceeded by a few well-directed chisel blows to open up a fair sized hole in the main trunk. At this position he was just opposite one of the feeding stations built of a stick and small platform hanging from a limb. After perceptible hesitation, the woodpecker hopped across to this "shelf" and was soon whacking away at a piece of suet. This occupied his attention for some fifteen minutes, when he became restless and flew off. An hour later he appeared in the next tree, but was scared away; later he was flushed from the station tree but I did not see whether or not he had been feeding.

On March 21, my children remarked that the Pileated had again been at the feeding station. On March 28, I saw from the bedroom window a male Pileated this time on the front lawn feeding shelf, which hangs from the limb of a large ash tree about twenty yards from the house. He fed undisturbed from 6:30 to 7:00 A.M. It may be added that to sit at the breakfast table with the window open and a pair of 7x50 glasses is rare sport with a Pileated at twenty feet for game!—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tennessee.

RED-COCKADED WOODPECKER IN MISSISSIPPI—Apparently this species (*Dryobates b. borealis*), always local in distribution and being a bird of the southern pine woods only, is an uncommon resident in Mississippi. In June 1936, the writer accompanied by John Pond, Eugene Wallace, and George Foster, on a two weeks bird-listing tour of that State—down the west side, four days on the coast, and returning up the east side—failed to record it at any point. In the pine-forested areas that we searched Pine Warblers were often seen, and less frequently, Brown-headed Nuthatches. The summer previous, Wallace had seen one of the woodpeckers near Hattiesburg. Thomas D. Burleigh has reported it¹ as uncommon on the Gulf Coast. Andrew A. Allison, during his stay near Iuka, Miss., from April 17 to May 17, 1904, reported² the Red-cockaded as "fairly common, very noisy and not likely to be overlooked if present." This statement inspired an unsuccessful search in adjacent parts of Tennessee by T.O.S. members; and the writer, searching the Iuka area in 1941, failed to find it even there.³ During June 1939, a week was spent making a bird census of nearby Tishomingo State Park but the species was not recorded. The following week was spent on the move in north-east Mississippi and on June 21, 1939, 60 miles south of Iuka and 5 miles north of Greenwood Springs, I heard and saw my first individual of this species. The following spring, I returned

with a party for a week-end at Tishomingo State Park and on May 19, 1940, at the picnic pavillion, we found three Red-cockaded Woodpeckers. This had been the starting point for several of my hikes during the 1939 week, during which I recorded none. The three birds were only moderately noisy, no more than a Downy usually is. Later on in the day I found another 30 miles northward in the old Eastport area mentioned by Allison and near the "Phoebe tunnel." This location is about 10 miles south of the point where Dr. Counce reports, in our last issue,⁴ seeing one on March 31, 1946.—BEN B. COFFEY, Jr., 672 N. Belvedere, Memphis, Tenn.

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¹The Bird Life of the Gulf Coast Region of Mississippi, Occasional Papers, Museum of Zoology, La. State Univ., No. 20.

²The AUK, 1907, 24:12-25 and MIGRANT, 1943, 14:71.

³MIGRANT, 1941, 12:56.

⁴MIGRANT, 1946, 17:13.

PRAIRIE HORNED LARK AND LARK SPARROW NEAR McMINN-VILLE—On June 14, 1945, while driving eastward for a stay in the Unicoi Mountains, we recorded both of the above species near Cedar Grove school, 14 miles S-S-east of McMinnville, Tenn. The Lark flew across the fields toward us and alit on a fence post by the road, singing as it did so and permitting a good view. We left the car and searched in the adjacent pasture for a nest but without success. While thus engaged, we came across a pair of Lark Sparrows, and in thick, tussock grass, found an abandoned nest. The male was collected and proved to be in breeding condition. This is a new nesting area for both of these species and for this reason should be of interest.—ALBERT F. GANIER, Nashville, and ALFRED CLEBSCH, Clarksville, Tenn.

CANNIBALISTIC THRASHERS.—A pair of Brown Thrashers built their second nest of season on our premises in the top of a weigelia bush. It was so close to the top that there was little protection from the hot sun, but 3 eggs were laid and duly hatched. A few days later, Sunday June 16, as I sat nearby reading, I noticed one of the Thrashers dragging a tiny dead and featherless young from under the bush, occasionally pecking at it and eating the flesh. On my approach to examine this, the old bird flew a few feet away to a tree. One Thrasher fledgling was found missing from the nest. Calling my husband, we watched for half an hour and during that period saw that each bird returned to the dead fledgling, pecked at it vigorously and ate part of the flesh from it. The next day there was only one fledgling in the nest and on the day following, it too had disappeared. It is probable that lack of shade caused the hot sun to kill the naked young and that the parent birds threw them from the nest in process of cleaning. Once dead, quite likely the parents did not react as they would have toward a young begging for food but rather as they would have to any article of food such as they might find upon a garbage pile.—AMY WEEDON MOORE, 439 Patterson St., Memphis 11, Tenn.

ROBIN CAPTURES SMALL SNAKE—One day this past spring I noticed a Robin having trouble with what I at first thought to be a large worm. The bird was unsuccessful in trying to break it into pieces as they do worms and observing more closely, I noticed the object was yellow underneath. Realizing then that it was a small snake, I went to investigate and found the little reptile to be six or seven inches long, probably a De-Kay's Snake. The Robin had been loath to give it up, running through the yard and behind the garage carrying its prize, but finally the bird dropped it. I then placed it where I could watch it, and during the ensuing half hour noted that Blue Jays, Thrashers, and Grackles all flew down and looked it over but made no attempt to eat even the ants that had gathered on it. I was then called away for not more than five minutes, but when I returned it had disappeared. It was too badly mangled to have gotten away by itself, and I assume one of the birds must have carried it off.—AMY WEEDON MOORE, 439 Patterson St., Memphis 11, Tenn.

CARDINALS NOT ALWAYS SEDENTARY—(The following note, taken from **Bird-Banding** for April, 1946, p. 78, is reproduced here because of its especial interest to bird students in Tennessee where the bird is common at all seasons.—Editor)

"One of the many surprises that have come to light as a result of bird-banding is that species that have been supposed to be entirely sedentary in their habits sometimes make fairly long journeys. The following records for the Cardinal are an example. In all probability most of the individuals of this species live out their entire existence within a mile or two of the nest, but banding has demonstrated that a few of them have been really adventuresome.

"35-204712, banded at Sutherland, Iowa, September 26, 1935, by Gustav J. Schultz, was found dead November 1, 1935, at Newell, Iowa, about 35 miles away.

A293311, banded at Sioux City, Iowa, December 24, 1931, by Mrs. Marie Dales, was found dead May 11, 1932, about 80 miles away, at Santee, Neb.

B270818, banded as an immature, at Battle Creek, Michigan, October 23, 1933, by L. C. Nielson, was captured by hand in the early morning of December 14, 1933, by Dr. J. Van Tyne, at Ann Arbor, about 85 miles distance. The bird seemed to be suffered from cold but was released in good condition two hours later.

39-247157, banded as an immature, at Chevy Chase, Md., August 20, 1943, by A. E. Clattenburg, Jr., was found, slightly injured November 2, 1943, at Ranks, Lancaster County, Pa., a flight of about 85 miles.

36-120378, banded at Raleigh, N. C., May 29, 1938, by J. L. Primrose, was found dead Dec. 26, 1939, at Winston-Salem, N. C., about 95 miles away.

41-202287, banded at Elberton, Elbert Co., Ga., April 4, 1944, by P. B. Smith, was "found" Jan. 18, 1945, about 105 miles north in Dickinson County, Virginia, 3 miles north of Herald.

37-231808, banded at Iowa City, Iowa, April 18, 1940, by C. G. Danforth, was killed by a train at Des Moines, Iowa, 110 miles distant.

35-208878, banded at Memphis, Tenn., Feb. 18, 1936, by Mrs. G. W. Govert was killed about Nov. 25, 1936, 145 miles away, 3 miles north of Russellville, Alabama.

37-237826, banded at Takoma Park, Md., March 10, 1939, by L. M. Ashley, was found dead July 20, 1940, almost 200 miles away, at New Kensington, Pennsylvania.—MAY THACHER COOKE, U. S. Fish and Wildlife Service, Bowie, Md.”

BIRDS CROSS THE ATLANTIC ON SHIPS:—During World War I, the writer as a member of a gun crew on a slow-moving transatlantic merchant ship had an opportunity to witness the unheralded arrival on the east coast of the United States of two different species of European birds. Although my knowledge of birds at that time was very limited, I could not help but make a few casual observations since I was in close contact with these birds for approximately two weeks on each occasion.

On the first occasion, two small yellowish birds (I called them “canaries” in my diary) came aboard the ship as we were leaving France. Members of the gun crew put food out for them on the deck-house roof, and they became fairly tame. A little too much so, however, for during the first week at sea the ship’s cat killed one. Thenceforth, the gun crew appointed itself a committee to see that a like fate did not befall the other bird, and thanks to their vigilance, it survived the cat as well as the voyage. On the day we sighted land, our “hitch-hiking” friend deserted us and flew toward shore.

On a subsequent trip, the second day out from France, a small hawk, in all probability carried out to sea by a storm, took refuge on the ship’s foremast yard-arm. Although I spent many hours in the crow’s-nest, not more than 10 feet from where the bird perched, I was not able to recognize it as a familiar species. The crew made no attempt to feed this bird and as far as I could determine, it had nothing to eat during the entire trip across the Atlantic. At least once each day the bird would leave its perch and make a wide circle around the ship, at times being out of eye range, presumably in search of land or food. On the day before we sighted land, the hawk left its perch as usual but this time it did not return. Obviously it had sighted land from on high and had flown to reach it.—ROBERT J. DUNBAR, 106 Glendale Lane, Oak Ridge, Tenn.

COMPETITION FOR NESTING BOXES—The two following incidents seem to illustrate the need for more nesting boxes to be erected, especially in suburban areas. The first reported by Mr. H. P. Ijams of Knoxville, concerned a pair of Bluebirds which had built a nest in one of his boxes and deposited a set of four eggs. At this stage of the nesting activity, a pair of Tufted Titmice entered the scene and decided that the box met with their approval also. A nip and tuck battle for its possession now began, and in a few weeks the Bluebirds admitted defeat and four Titmouse eggs were found to have been added to the previous occupants’ eggs. Only a slight amount of nest material had been added by the new occupants.

The second incident concerned a pair of Flickers which chose a nesting

box near the back porch and which were attacked by Starlings for several months. One day in early June, three Flicker eggs were found on the ground below the box and the Starlings had taken possession. The writer began to help out by throwing stones at the interlopers otherwise frightening them away, and altho the Flickers remained at the box constantly, it was approximately five weeks before they resumed their nesting activities. By then the Starlings had ceased to interfere. Conditions were quiet until August 8, when I heard a commotion near the box and saw that the Starlings had returned. Soon one of them entered the box only to hurriedly leave with a Flicker in hot pursuit. Twice more within the next thirty minutes the Starling entered the box, but in these cases the female Flicker dragged out the intruder, aiding herself by her wings and one foot. The Flicker on each occasion gripped a wing tightly in its foot and both birds fought furiously as they fluttered to the ground. After each tussle, the Flicker would return immediately to the nest while its antagonist alighted on a nearby limb to preen and apparently to lay plans for another attempt. The Flickers won out, and some time later five of their young successfully left the nest.—W. M. WALKER.

NOTES FROM ELIZABETHTON ON THE ARRIVAL DATE OF PURPLE MARTINS AND OTHER BIRDS—The last end of the 1946-47 winter was accompanied with high winds, low temperatures, and unusually frequent and heavy snowfalls beginning the second week in February and lasting almost uninterruptedly till nearly the end of March (eight inches of snow on March 27), had an apparent adverse effect on the arrival of many migratory birds. Purple Martins, however, appeared on schedule.

Near the eastern limits of Elizabethton, Mr. Stanley Gregg has at his residence four Martin houses. The first house was erected in 1929, and since then the number of houses and Martins has increased until during the past few seasons some 25 pairs frequented the place. According to Mr. Gregg's observations, the Martins arrived year after year on or about March 15; this was the exact date in 1945 and 1946. Despite this year's extremely wintry weather, two male Martins arrived at this place about four o'clock in the afternoon of March 15, 1947. During the severe winter weather which immediately followed this date, the Martins disappeared for a day or so at a time. By March 23, two pair of Martins were present at the houses, and by April 3, approximately eight pairs of the birds had arrived.

Other species of birds were not as prompt as the Purple Martin, probably delayed by the snow and cold. Great Blue and Black-crowned Night Herons, previously recorded as early as March 18 and 23, respectively, were first observed this spring on March 30. The Grackle, first seen this season on March 16, and the Red-winged Blackbird, first on March 23, were both delayed by from three to four weeks compared with preceding years.

Of interest was a notable increase in the number of ducks, species as well as individuals, on the Watauga River; this includes a single Canvas-back on March 23, the first record for this species in this locality.—FRED W. BEHREND, 606 West D. St., Elizabethton, Tenn.

A ROUND-UP OF CHAPTERS AND MEMBERS

The secretary of T.O.S., Mr. Fred W. Behrend, has recently completed the arduous task of checking and arranging the membership list of the Society. This, together with some information that has been furnished to the editor by the members of various local chapters, now gives us a fairly complete picture of the status of the Society and of the activities of the local chapters. Many people will be interested to know what the local chapters are doing, when and where they are meeting, and if they have any inspiring ideas.

The Nashville Chapter has 82 members listed. Mrs. Emily Barry Walker of Ward-Belmont College is the President, and Donald Maynard is the Secretary. Meetings are held on the second and fourth Monday of each month; the program for the second Monday is a discussion or an account given by some member of the club, and for the fourth Monday is a round-table discussion. The topics have been such as the birds of a particular locality, the flocking of birds, and reviews of particular books on birds. On March 10 there was a special meeting to honor Miss Alma Hollinger; she became a member of the T. O. S. in 1921, and in 1930 when the publication of a magazine was projected, it was she who proposed the name of *THE MIGRANT*. The annual Spring Field Day will be held on May 11th; for more news on this, see beyond.

The Memphis chapter has 64 members. The newly elected officers are: President, Brother I. Vincent; Vice-President, Mrs. C. E. Moore; Secretary, Miss Alice Smith; Treasurer, Miss Mary Davant. The five directors of the state organization from the Memphis chapter are: Mr. Ben B. Coffey, Mrs. Floy Barefield, Mr. Luther Keeton, Dr. C. E. Moore, Mr. Bert Powell. Meetings of this chapter are held on the second Wednesday of the month at the Memphis Museum, Pink Palace, on Central Avenue. Short field trips or hikes are held once each month. The spring field day will be May 4th, when the participants plan to go to Lakeview, Mississippi, twenty miles south of Memphis.

The Knoxville Chapter lists 18 members. Mr. William M. Johnson is President. Meetings are held on the first Wednesday of each month, usually in the office of Mr. Brockway Crouch. Field trips are ordinarily held on the third Sunday of the month. The Spring Field Day will be held on May 4th, centering as before around the home and farm of Mr. H. P. Ijams.

The Elizabethton Chapter has 18 members. At a business meeting in March the following officers were elected for 1947-48: President, Mr. J. C. Browning; Vice-President, Mr. Bill Southerland; Secretary, Mrs. J. C. Browning; Treasurer, Miss Mary Cooke; Historian, Mrs. George I. Leonard; and Statistician, Mrs. L. R. Herndon. At the second March meeting a talk and motion pictures were presented by Mr. W. R. Anderson, forest ranger in that area of Tennessee. Field trips are held once or twice a month by this chapter.

The newly-reorganized Johnson City chapter has 13 members. Mr. Charles Sherrod is President; and the other officers are: Vice-President,

Walter Hendrix; Secretary, Ruby Doak; and Reporter, Mrs. S. D. Jackson. The chapter meets the second Thursday of the month in the club room of the Mayne Williams Library. At these meetings there have been programs of motion pictures and still pictures. Talks have been presented by visitors who were authorities on or who were interested in birds. At one meeting the members brought either a bird house or feeder—the result of a project completed during the previous month. At each meeting there is an open discussion concerning observations of birds and their habits.

The recently organized Greeneville chapter has nine members. The officers, elected at the organization meeting last December, are: President, Mr. J. B. White; Vice-President, Mr. C. M. Shanks; Secretary and Statistician, Mrs. Richard Nevius; Treasurer and Historian, Mrs. Willis Clemens; Publicity Chairman, Mr. Richard Nevius. The member of the state board of directors is Mr. A. L. Brown. The chapter has been meeting at the homes of its members on the fourth Sunday of each month.

In addition to the chapters mentioned above, there are eight members in Clarksville, nine in and near Columbia, three at Murfreesboro, and 26 others scattered over the state. There are 105 members outside of Tennessee. Subscriptions to THE MIGRANT come from about thirty libraries and museums. The total of all subscriptions and memberships on Mr. Behrend's list is 385.

It is hoped that the listing above of some of the activities of local chapters will be suggestive and useful to program committees. These pages of THE MIGRANT will be a good place to pool ideas for programs and activities, so we will be glad to receive news, suggestions, and reports of successful meetings and projects.

A CONSERVATION PROJECT OF THE ELIZABETHTON CHAPTER

The Elizabethton Chapter is proposing the establishment of a wildlife refuge on the lake which will be formed behind the new Watauga dam. This dam is being constructed as part of the TVA system on the Watauga River; the resulting lake will lie in eastern Carter County. The chapter has approved a proposal which has been drawn up and sent to various **people who might be able to assist in carrying out the project.** To quote from the description of the proposal: "... we propose that an area of land and a portion of the (Watauga) lake area be established as a wild life refuge. Although this area will not be in the main water fowl fly-way, some water fowl do frequent this area and with proper food and protection many wild birds could be attracted to this area.

"We have in mind the planting of duck foods in favorable areas, securing some wild Mallard ducks for . . . permanent residents and affording adequate food and protection until they become established.

"We, the Elizabethton Chapter of the Tennessee Ornithological Society, request favorable consideration of the establishment of a wild life refuge along the south shore of proposed Watauga Lake, to include suitable areas of both land and water for the propagation and protection of wild life including land animals, birds, and aquatic life. (s) Lee R. Herndon."

ANNUAL SPRING MEETING AND FIELD DAY

May 11, 1947, has been set as the date for the combined annual meeting of the T. O. S. and the field day in the Nashville area. Persons interested in obtaining more information can do so from the president of the Nashville chapter, Mrs. Emily Barry Walker, Ward-Belmont College, Nashville 4, Tennessee. It is hoped that a large number from localities other than Nashville will attend. A field day is always interesting, and it is worthwhile to meet the members from other sections of the state as well as to take part in the annual meeting.

NOTES, HERE AND THERE

Franklin McCamey has recently moved from Memphis to the Great Smoky Mountains National Park where he will assist Park Naturalist Arthur Stupka in his work. Mr. McCamey has a good reputation both as a field observer and a photographer. During part of his four years in the Army he was stationed in Florida, where he cooperated with and assisted the Florida Audubon Society in their visual education work.

The U. S. Fish and Wildlife Service and its predecessor, the older Biological Survey, have for many years accumulated and filed reports on the distribution and migration of birds. These files now consist of over two million cards, and are used as the basis for statements of bird distribution in many publications. The system of obtaining information for these files is to be expanded by seeking aid from local bird clubs and other agencies; the primary purpose of doing this is to improve the geographical coverage of these reports. In the near future some of the local chapters of the T. O. S. may hear directly from this program as they are asked to participate in it.

Information on the binding of back issues of THE MIGRANT may be obtained from Mr. A. F. Ganier (see address in advertisement on inside back cover). Volumes of THE MIGRANT are usually bound in groups of three, ie., 1938-40, 1941-43, 1944-46. Mr. Ganier, who is still Curator of the T. O. S. can also replace back issues to complete sets (this information also in advertisement).

EDITORIAL

It is the responsibility of a new Editor to look into the future and to inform the supporters of his publication what he thinks or hopes he can see there. This amounts to stating what he believes should and can be done.

THE MIGRANT is the publication of the Tennessee Ornithological Society, which consists of a group of local chapters scattered over the state. These chapters are the backbone of the state organization, and on their welfare the T. O. S. depends. In turn, the strength of local chapters depends largely on the interest of its members in watching and studying living birds in the field. The purpose of these local chapters should be to increase this interest, for an interest in living things and in nature is one of the healthiest interests for both mind and body that any individual can possess. The aim of THE MIGRANT, therefore, should be to encourage this interest and to aid its development; in so doing it will strengthen the individual, the

THE MIGRANT

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PUBLISHED BY THE TENNESSEE ORNITHOLOGICAL SOCIETY

Free to members. To subscribers, \$1 per year; single copies 30c.

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Fred W. Behrend, Secretary, 603 West "D" St., Elizabethton, Tenn.

Lawrence C. Kent, Treasurer, 1896 Cowden Ave., Memphis 4, Tenn.

All items for publication should be sent to

James T. Tanner, Editor, Department of Zoology, University of Tennessee,
Knoxville, Tennessee

The Tennessee Ornithological Society was founded, October 1915.

Publication of THE MIGRANT was begun, March 1930.

*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

local chapter, and the T. O. S.

To accomplish these ends, there will be printed in THE MIGRANT, as there has been in the past, articles which will inform about birds and which will point the way to learning more of birds. This will automatically accomplish other desirable ends: THE MIGRANT will continue to be a repository of much useful information concerning the birds of Tennessee; it will foster the growth of ornithology as a science; it will encourage the field study of birds by presenting concrete results of such studies; and it will integrate the interests of local chapters into the state-wide organization by giving them another common interest, the publication of this journal on birds. It will also serve the T. O. S. by printing notes and news concerning the activities of chapters and members.

The success of THE MIGRANT depends largely upon its contributors. The individuals who really make the magazine are those who write the articles and notes that are printed there. It is highly desirable that the contributors be as wide a representation as possible of the membership of the society, for this will insure both more interesting articles and more complete recording of the facts of bird life as well as a greater participation in the activities of the T. O. S. I can only encourage the cooperation of all in this effort. And there is another reason for writing for THE MIGRANT. Our motto has long been "The simple truth about birds is interesting enough, it is not necessary to go beyond it"; we can also say, "The simple truth about birds is interesting enough—to tell and write about it."

I expect to enjoy this task. I like to talk and read about birds, the next best thing to being in the field, so I should be happy.—J.T.T.

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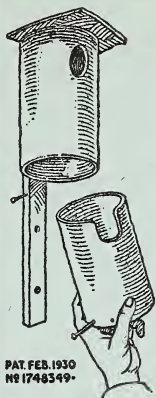
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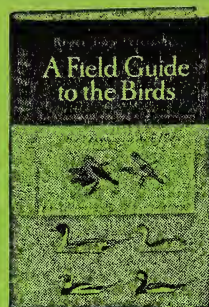
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NESTING HABITS OF THE GREAT HORNED OWL

By ALBERT F. GANIER

It is a generally accepted fact that the Great Horned Owl (*Bubo v. virginianus*) has become a rare bird in all sections of the country that have long been settled. The generations of hunters, the lack of virgin timber, and the general encroachment of civilization are usually considered to have all but swept this great bird of prey from our long-settled communities.

I therefore determined some years ago, i.e., during the year 1925, to specialize for the season on this species in an effort to find a series of actually occupied nests and thus prove that a number of records we had been making during winters past were of resident and not migrant birds. I may say that I was agreeably surprised to find that this owl is not as rare about Nashville as had been thought, as proven by the fact that I found five nests containing eggs and definitely located several more pairs whose nests I did not have time to look carefully for.

The fact that the Nashville area was first settled more than one hundred and fifty years ago, and that for the most part it is well settled and fine farming country, makes it of especial interest that these birds are surviving the conditions that are generally considered to bring about their extinction. All of the pairs are in Davidson County except one, the nest of which lies one mile south of the line. Although I have during the succeeding years tramped practically every large strip of woodland in this area, I am not prepared to say that I have definitely located one-half or even one-fourth of the total number of pairs of Great Horned Owls that breed in the county. Certain sections of very hilly topography on the large old estates still contain ravines filled with beech and other virgin timber. The rivers are also for the most part fringed and flanked with timbered areas particularly where the cliffs come so close to the stream that cultivation has not justified the removal of the intervening growth. Here too flourishes the stately sycamore, many of which have fine cavities in their tops such as this owl seems to prefer. Here also is occasionally found a vertical cliff containing deep cut ledges and natural cavities and in these cliffs two of the nests have been found. In the upland woods the big beeches frequently contain large cavities, the floors of which are usually nearly level with the hole. The Red-tailed Hawk breeds regularly in the areas frequented by the big owls, and their bulky nests are available but are evidently not used if a good hollow or cliff site can be had. I am also convinced, from examining dozens of empty as well as used hollows, that birds pick as large a one as possible, knowing intuitively or from experience that a parent bird, two lusty young, and a supply of game require ample standing room. Two

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of the three nests for which an old domicile of the Red-tail had been chosen held one young and one egg respectively; in the third, young could be seen from an adjacent hillside but whether there were one or two was never ascertained. However from the above it would appear that when old hawk nests are used, often but one young is raised because of lack of standing room.

In order to develop the subject further it is perhaps best to give below a description of the nests found, the owls' conduct on and near the nests as well as to give what is known of the previous history of each pair.

Pair No. 1. On January 18, 1925, I found a nest containing one fresh egg, in a cliff above Stone's River, nine miles southeast of Nashville and three-fourths mile above my camp, "River-Cliff." When revisited one week later for photographing, the nest contained two eggs. The nest of this pair had been sought the previous year by examining the hollow trees along the river bank, but I had only casually examined the cliff high above the river, so did not find it. This year, after covering the same ground, I gave careful attention to the most rugged cliff, after noting that some Crows were very noisy in its vicinity.. I decided to climb trees along its base in order to be able to see the ledges, and on having climbed twenty-five feet up the first one I had the pleasure of seeing a sitting owl fly from a ledge even with my eyes and about fifty feet away.

She dropped downward, then noiselessly winged her way up the bluff where the ever-present Crows harangued her at length, with vociferous clamor. On climbing another tree closer to the ledge, I could easily see the one fresh egg, resting on the dry dirt of the ledge, surrounded by a dozen of the long downy feathers from the owl's belly. Although we had talked loudly under the ledge, the bird did not fly until I climbed the tree referred to. I left at once and returned a week later, accompanied by friends, including Dr. H. S. Vaughn who brought his photographic paraphernalia. As we walked under the nest ledge the male flew from a crevice high up in the cliff and fifty feet from the nest. He alit in a tree fifty yards away, viewed us briefly with ear tufts erect, then moved on. I first climbed the tree forty feet away with my spurs, and as I came up even with the shelf I saw the bird sitting with ear-tufts nearly erect. A few inches more and I could see her yellow eyes peering from behind an intervening rock. She looked perhaps five seconds then arose and launched herself in flight, whereupon as before, she was besieged by the neighboring Crows. During the hour we remained at the nest neither bird reappeared. We had set up the camera with the hope of getting the bird as she left the nest ledge but a poor focus spoiled the picture.

The eggs were removed from the nest ledge by means of a small dip-net attached to the tip of a fishing rod and manipulated from a nearby tree. There were about a dozen of the owl's belly feathers about the eggs and we picked up twenty-two more beneath, on the base of the cliff. There were also a number of old bones on the ledge and some Crow feathers. No excreta or pellets were found on or below the ledge but much of the

former was found below the male's roost. When the eggs were prepared for my collection, one showed a week's incubation and the other at least two days less. The cliff above protruded well beyond the nest ledge and sheltered it effectively from the rain. The ledge was level on top, about two feet wide and fifteen feet long. Being cut off sheer at each end, it was inaccessible to prowlers. The cliff itself is an escarpment about sixty feet high which crowns a wooded bluff rising from the river. It is in the midst of a belt of woodland which extends along the stream.

The nest was revisited on March 15, when it was found that two more eggs had been laid. On March 22, the nest contained two young about four days old. By applying the usual thirty day incubation period, it was evident that the second set was laid about one month after the first set was collected. When I approached the nest-ledge on this occasion, I beat upon the rock a few feet beneath it with a pole but the brooding bird stuck to the nest. Upon my climbing the tree to a point level with the nest and ten feet away, she flew but later took up a position fifty yards away. The male, which had been roosting twenty-five yards away from the nest and on the face of the cliff, took a position on a branch a few feet from his roost and scolded by snapping his bill and glaring with his yellow eyes. Occasionally he would distend his white throat as though making some inaudible noise. He appeared very dark, nearly black. In the nest was the body and severed heads of two rabbits while a number of bird feathers were scattered about on the ledge. Both birds maintained their positions, not coming nearer. The site was not visited again that season and I assume the young fledged successfully. It was visited however for a number of subsequent years but was never found used again. Along the river below were numerous big trees containing good nesting cavities and the owls were heard there each nesting season.

Pair No. 2. On January 24th, 1925, I took from a cavity in a live beech tree a set of two perfectly fresh eggs. This nest was located in an extensive and thick woods near the top of a large high mass of hills, overlooking the South Harpeth River valley. It was eleven miles southwest of Nashville in Williamson County, just one half mile south of the Davidson County line and near the Hillsboro Road. The tree was twenty-eight inches in diameter near the base and the limbless trunk had decreased but slightly in size at the cavity forty feet above. It grew on a steep slope not far below the crest of the ridge. The floor of the cavity was dry and was about five inches below its entrance. As usual no nest material had been brought in by the owls and no food was about nor were there any signs of occupation under the tree. The eggs were white and clean and lay on an accumulation of debris which included rotted wood, leaves, old bones and feathers. About a dozen of the owls' own silky belly feathers were by or near the eggs. On arriving at the base of the tree I pounded on it vigorously with my hand axe but the brooding bird would not fly. She flew however when I had reached a point about fifteen feet above the ground, dropping first downward, then flying swiftly out of sight, and she did not return during the half hour I was at the nest.

My first experience with this pair was in the previous year, when one of the parent birds flew from this nest tree while I was a hundred feet away. This was on March 30th, and an examination of the ground below the cavity, white with excrement, indicated that the nest contained large young, probably ready to leave. The parent bird kept in sight, with ear tufts erect and occasionally calling. I did not climb to make a more complete observation.

During 1926 this nest cavity was not used, but in 1927 Vernon Sharp visited it, and upon flushing an owl from the nest he climbed and found a single egg. This was nearly fresh and another might have been added later. Several visits in subsequent years found the tree unoccupied.

Pair No. 3. On Feb. 1st, 1925, I found a Great Horned Owl sitting on an old Red-tailed Hawk's nest, and on climbing the tree three days later the nest was found to contain one fresh egg. It was cold and the parent was absent. On Feb. 7th, Dr. Vaughn visited this nest to photograph the incubating bird from the steep slope upon which the tree grew. She was sitting and although he worked at thirty yards and slightly above her, she did not leave the nest. The next morning I visited the nest, likewise found her sitting, and upon climbing, found no more eggs had been laid. By way of experiment, I substituted a small, white hen's egg for that of the owl. Apparently it was not accepted for on my return twelve days later the nest was empty. When first inspected, a number of Cardinal feathers were in the nest as well as soft feathers from the owl's body. This nest was located eight miles southwest of Nashville and a half mile west of the Hillsboro road. It was a very exposed situation to have been chosen for this retiring species since the nest was almost over an open hillside pasture and could be plainly seen from a distance. The owl, sitting on the nest, could easily be seen several hundred yards away. It was forty-five feet up (about two-thirds the height) of a large black oak and was built in the broad triple crotch formed where two ten inch branches had sprung from the main trunk. It had been built and used by a Red-tail at least five years previously and had held the young of this hawk in 1923. Over the hill in thickly wooded little valley, the roosting place of the male was found. It was in a thick, vine-clad poplar, and fresh excreta on the ground showed that it was in use.

On Feb. 20, 1927, the nest of this pair was again found, it being just over the hill in the open-topped cavity of a live sugar maple tree eighteen inches in diameter. The birds were hard-put for a nesting place since the cavity was only twenty-five feet up, but twelve inches in diameter, and open on one side. The owl, covering the young, could plainly be seen from the steep wooded slope above. She flew off as I tapped the base of the tree, going two hundred yards to the other side of the gulch, where she kept up a continual "hooting." Greatly to my surprise, this nest was found to contain three young and these appeared to be eight, ten, and twelve days old, respectively. The hind legs of a rabbit was the only food in the nest. This hollow was probably used for nesting previous to 1925, since during that year I had climbed to it and found quite an accumulation of old

bones and feathers. The following spring, 1926, it was found to be holding water so I bored a drain-hole and inserted a pipe, adding also some small cedar twigs. During 1928 the cavity was unoccupied, but the owls were still using these woods.

Pair No. 4. On Feb. 8th, 1925, I found a nest in the decayed top of a big sycamore overhanging Stone's River, a short distance below the Stone's River Pike bridge and thirteen miles from Nashville. The bird flew off the nest when I tapped on the base of the tree with a stick. For lack of time I was unable to climb to the nest on this day, but did so four days later and found two eggs, incubated about fifteen and seventeen days respectively. On this visit the brooding bird flew off when a stick cracked beneath my feet under the nest tree. On both occasions she remained in sight most of the time, flying restlessly from one tree top to another, across the river, from 150 to 500 feet away. During the half hour I was engaged in climbing the tree, she frequently uttered the typical call note of the species. On neither visit was more than one bird seen. The tree was three feet in diameter at the nest and alive except for the large rotted cavity in its center. It was in a thirty foot wide fringe of trees along the east bank, back of which was a narrow corn field, flanked in turn by an extensive hilly woodland pasture. Across the river was a cliff and thinly wooded waste land. From the ground, several downy owl feathers could be seen sticking to the rotted wood and adjacent branches. The eggs were placed far back in the large open cavity, the floor of which was dry and level with the entrance. This "floor" was an accumulation of wood rot, twigs and leaves, and when examined was thinly covered with snow except where the egg lay. No nest material had been supplied by the birds other than a dozen of the bird's belly feathers. Re-visiting the tree on March 22, it was found that the birds had not relaid.

The presence of this pair was suspected from the fact that on April 9th, 1919, a young of this species was found wandering about on top of a cliff three hundred yards downstream. This cliff was examined two subsequent seasons in hopes of finding a nest there, but the sycamores upstream were not searched.

The old nest-tree was again visited on Feb. 10, 1929, and was found to contain two eggs, incubated about twelve days. Incubation had therefore begun about Jan. 26, as compared with Jan. 24 in 1925. The incubating bird flew from the tree only after I had rapped it several times with a pocket axe. She flew across the river and about three hundred yards downstream, alighting in the top of a tree. Five minutes later she flew nearly back to the tree but seeing me, returned to her perch and a few minutes later was being kept busy "entertaining" the neighborhood Crows. The nest cavity was about sixty feet above the water, and the trunk five feet in diameter; this coupled with a driving snow and the thermometer in the twenties made the climb a stiff one. The eggs were decidedly smaller than the average.

Pair No. 5. On Feb. 22nd, 1925, a nest with two eggs, far advanced in incubation, was discovered in a beautiful cliff which rises above the Cumberland River and overlooks Cockrill's Bend. We have named this site

"Buzzard's Bluff" for the reason that two or three pairs of Black and Turkey Vultures nest in its small caves each year. It is located eight miles west of Nashville. This well wooded bluff is extremely steep, rising from the river bank to a height of 225 feet, and crowned with a vertical escarpment several hundred feet long and as much as sixty feet high. The cavity chosen by the owls was twenty feet above the base of this cliff and about twenty-five feet from the top. As we walked along talking at a point under the nest cavity, the brooding bird flew from the nest. Ten minutes later, as I lowered myself from above by rope, both birds appeared together, and flew toward the nest. However, at forty feet they observed us and swerving sharply flew back down the cliff from whence they came. The eggs were three feet back from the entrance of the cylindrical cavity which at this point was about two feet in diameter. They lay on an accumulation of litter composed of bark, twigs, leaves, dirt, etc., that had been gathered by the cliff rat (*Neotoma pennsylvanica*) which is common at this cliff. The eggs were shiny and "dense" when held to the light; later observation showed that the usual thirty day period of incubation had begun about February 3rd. We left within fifteen minutes after flushing the bird, in order that the eggs would not get chilled.

Although this cliff had been visited during April for several years in search of vulture nests, we had not suspected that owls might use it for nesting earlier in the season. However we had observed them in the vicinity during several of the years previous. Conditions here were excellent for photography, so the nest was turned over to Dr. Vaughn for that purpose. He made visits to the nest on Feb. 28, March 7, 14, 21, April 7, 18 and 25, securing an excellent series of pictures. On the March 7 visit, he found that the eggs had hatched 3 or 4 days previously, thus making their date of deposition about Feb. 3. On April 7, food found in the nest consisted of a headless rabbit, a Meadowlark, and part of a Crow, the latter good evidence of the reason for the hatred of "Bubo" by the Crow tribe. On April 18, there was half of a rabbit in with the young. The young left between the visits of April 18 and April 25, making their period of nest-life at least 46 days. Visits to the bluff were made in subsequent years, but the nest site was not again found in use although owls of this species were seen there.

Pair No. 6. dwell in the Overton Hills forest above Radnor Lake, 7 miles south of Nashville. This extensive tract of woodland crowns the highest group of hills in the county, some of which rise to 1250 feet elevation. Their nest was first found on March 18th, 1917, when the sitting bird was observed from an adjacent hillside, on a three year old Red-tailed Hawk's nest. She refused to leave even when the tree was pounded with a stout club. Being a tedious climb and too late for eggs, I did not investigate further. The nest was ninety feet up, in a tall slender "shell bark" hickory. On April 8th I visited the site again and observed that one or possibly two young birds occupied the nest and that the parent birds were not to be seen. In April 1919, I flushed an adult owl and two nearly grown young from the trees along a small creek, a quarter of a mile from the nest just described. Their nest,

though sought for, was not found during the years following though the owls were occasionally heard and seen there. On March 25, 1923, Vernon Sharp, Jr., who had sought the nest of this pair diligently for several years, found a young owl in an old Red-tailed Hawk's nest that had been built two years previously, but had not been occupied the following year. This nest was a quarter of a mile from the 1917 site and was built in a hickory on a well wooded hillside. The parent bird flew from the nest and called from a distance but did not come near. Some badly spoiled quarry was on the nest.

The young bird was removed from the nest since it appeared to be nearly ready to fly and was taken home to be kept for observation and study. It matured in due time and developed into a fine looking specimen. Regularly at about midnight it uttered several notes of the "boo" or "hoo-oo" type, and it showed no disposition to lose its inherent fierceness. It was banded and released by Mr. Sharp two years later in the same woodland. During 1924 he could find no nest, but on March 29 he flushed an old bird and two young in the woods a half mile from the previous site. On March 23, 1930, I was shown one young in an old Red-tailed Hawk's nest and several similarly situated nests were found there in subsequent years. The woods occupied by this pair is quite extensive, covering several hundred acres, and is protected from hunters; it is not unlikely that two pair breed within it.

GENERAL OBSERVATIONS AND SUMMARY

During the years following the 1925 series, approximately twenty additional nests of the Great Horned Owl have been found in Middle Tennessee by the writer. These for the most part were followed up with less care but enter into the remarks which follow.

Where a suitable hollow in a large tree can be had, these owls in the Nashville area seem to prefer them as a nest site to a ledge on a cliff or an old hawk's nest. Such a hollow must be reasonably dry and preferably large enough to comfortably shelter the offspring. In the fine escarpments of the Cumberland Plateau, however, ledges are preferred and in two instances their young were found in old nests of raptorial birds that had been built upon such ledges.

In most nests examined, the sitting bird refused to leave due to pounding on the tree or otherwise making a noise below; this is particularly true if small young are being brooded.

In no case has the writer ever been struck or closely threatened by the birds while he was in the nest tree; usually they fly away and keep out of sight. Nests in trees were reached by climbing with the aid of linemen's spurs, using a safety belt in addition for trees of large diameter.

It would appear that the male has a regular daytime roosting place, as near to the nest as suitable quarters can be had. The ground under such roosts is considerably soiled, and finding such a roost has on occasions helped to locate the nest.

The practice of feathering the nest, with long downy feathers plucked

from the bird's belly, seems general. No other nest material whatever is brought in. Occupancy of tree hollows may often be verified by finding these feathers caught upon nearby branches.

Under apparently ideal conditions, no more than two eggs or young have been found in a nest, with the exception mentioned. In the Northern States, three eggs are frequently found while the western race of this species is said to often lay four.

It appears that the average date of laying near Nashville is January 25th. The first five nests examined during 1925 held their first eggs on approximately the following dates: January 22, 24, 25, and February 1 and 2. The first three weeks of that January were warmer than normal, but weather conditions in later years and in other sections of the country have not been found to appreciably influence nesting. It is quite remarkable that the birds should be able to keep their eggs at incubating temperature in windy, zero weather, especially when using old hawk nests.

The period of incubation is twenty-eight to thirty days, according to Frank L. Burns (*Wilson Bulletin*, June, 1921), and the same author gives the period of nestlife of the young as about 45 days. This would indicate that our local birds leave the nest about April 10th. It is likely that young reared in an open nest leave earlier than those reared in a well sheltered one. In the case of the large owls, authorities agree that two and sometimes three days elapse between deposition of the eggs, and that incubation begins with the laying of the first one. My own data bears this out. The fact that young unable to fly have often been found on the ground, by various local people, shows that this species is inclined to leave the nest prematurely.

As to whether the birds lay a second clutch after the first has been taken, I have in only one case found this to happen, and can find little published data to support an affirmative conclusion. I think it is likely that if the eggs are taken when fresh, the birds will lay again but preferably at a different site. Based on my experience with other large birds of prey, I think a second set doubtful if incubation is advanced when the first set is taken.

2112 WOODLAWN DR., NASHVILLE, TENN., May 1947.

THE SPRING FIELD DAYS

Annual spring field trips and bird counts were made in four different localities in Tennessee this spring. The Elizabethton, Knoxville, and Memphis chapters all made their trips on the same date, May 4, 1947. The field trip at Nashville was made one week later on May 11, in conjunction with the annual meeting of the T. O. S. The total of all bird species listed from the four localities is 157. The total of all species recorded on the field trips taken on May 4 is 153, so there were at least that many many species of birds in Tennessee on that date.

The Elizabethton chapter, on May 4, covered the area around Elizabethton, and one member, Fred W. Behrend, climbed to the still snow-covered summit of Roan Mountain. Sixteen members participated. The total

number of species recorded is 115. Two species observed on the field day that were new records for Carter County were Blue-winged Warbler and American Bittern. On Roan Mountain were seen such birds at Least Flycatcher, Raven, Black-capped Chickadee, Red-breasted Nuthatch, Winter Wren, Golden-crowned Kinglet, and Junco.

The Knoxville chapter held their spring field day in the customary area, in the vicinity of the home of H. P. Ijams which is at the very southeastern edge of Knoxville, and on the lower reaches of the French Broad River. About twenty-five people participated; the time was from 6 A.M. to 8:30 P.M. The weather was clear and warm, windy after mid-morning. The total number of species recorded is 107. The six Screech Owls reported included a nest full of five young. One of the unusual sights of the day was a single flock of five species of swallows, all of the swallow family found in Tennessee except the Martin.

The Memphis chapter, on May 4, covered the Lakeview area, on the Tennessee-Mississippi boundary, including Lakeview, Mud Lake, and the levee. Sixty-seven people took part, from 9 A.M. to 6:15 P.M. A total of 115 species were recorded. The single Phoebe observed had a nest under a highway bridge. The large number of Dickcissels were found mostly along the levee.

The Nashville chapter held their field day on May 11th in conjunction with the meeting of the T. O. S. Most of the observations were made at Indian Lake, fifteen miles northeast of Nashville, and in the fields and fine woods surrounding the lake. Some of the observations were made in the early morning along the Stone River and other places in or near Nashville. The field day at Indian Lake ended in a lunch there, followed by the annual meeting of the state society. Approximately ninety people participated in this field day. 107 species of birds were recorded. The eight Wood Ducks consisted of an adult female and seven young seen on Stone River. The six Coots were an adult female and five young raised in Centennial Park, Nashville.

TABULAR RECORD OF SPRING FIELD DAYS

The abbreviation "c" means "common;" the abbreviation "f.c." means "fairly common." For further comments on birds marked with an asterisk (*) see the remarks on the field trip for that locality.

	Elizabethton & Roan Mtn.	Knoxville	Memphis	Nashville		Elizabethton & Roan Mtn.	Knoxville	Memphis	Nashville
Pied-billed Grebe	---	---	---	1	Black Duck	---	---	1	---
Anhinga	---	---	1	---	Blue-winged Teal	---	---	2	---
Great Blue Heron	---	---	2	1	Wood Duck	---	---	---	8*
American Egret	---	---	5	---	American Golden-eye	---	---	1	---
Little Blue Heron	---	---	8	---	Turkey Vulture	8	4	3	4
Eastern Green Heron	5	1	---	3	Black Vulture	---	1	4	15
Black-cr. Night Heron	---	2	---	---	Mississippi Kite	---	---	2	---
American Bittern	1*	---	---	---	Sharp-shinned Hawk	---	1	---	---

	Elizabethton & Roan Mtn.	Knoxville	Memphis	Nashville		Elizabethton & Roan Mtn.	Knoxville	Memphis	Nashville
Cooper's Hawk	---	---	1	1	House Wren	2	---	---	---
Red-tailed Hawk	---	---	2	1	Winter Wren	19*	---	---	---
Red-shouldered Hawk	---	3	---	1	Bewick's Wren	3	3	3	2
Broad-winged Hawk	1	1	2	---	Carolina Wren	22	15	15	f.c.
Osprey	2	---	---	---	Mockingbird	23	30	9	2
Sparrow Hawk	2	1	1	1	Catbird	80	15	62	3
Bob-white	13	10	5	3	Brown Thrasher	29	25	9	3
King Rail	---	---	1	---	Robin	92	c.	10	2
Sora	---	---	3	---	Wood Thrush	54	10	9	f.c.
Coot	---	---	---	6*	Olive-backed Thrush	---	22	8	2
Killdeer	8	1	2	4	Gray-cheeked Thrush	---	---	1	2
Wilson's Snipe	7	---	1	---	Veery	10	2	2	3
Spotted Sandpiper	18	15	1	7	Bluebird	9	10	1	4
Solitary Sandpiper	8	---	1	6	Blue-gray Gnatcatcher	15	12	7	f.c.
Lesser Yellow-legs	1	---	---	5	Golden-cr. Kinglet	11*	---	---	---
Mourning Dove	29	30	36	12	Ruby-crowned Kinglet	6	1	3	---
Yellow-billed Cuckoo	4	3	4	5	Cedar Waxwing	9	8	5	3
Black-billed Cuckoo	5	1	---	1	Migrant Shrike	---	---	3	---
Screech Owl	---	6*	---	---	Starling	200	c.	10	5
Barred Owl	---	---	---	1	White-eyed Vireo	36	10	20	c.
Chuck-will's-widow	---	2	2	1	Yellow-throated Vireo	8	4	1	3
Whip-poor-will	1	2	---	---	Blue-headed Vireo	4	---	---	1
Nighthawk	1	1	---	1	Red-eyed Vireo	23	16	15	c.
Chimney Swift	59	50	22	f.c.	Philadelphia Vireo	---	---	1	---
Ruby-thr. Hummingbird	---	3	11	2	Warbling Vireo	9	1	7	6
Belted Kingfisher	4	3	5	1	Black and White Warbler	19	10	1	4
Flicker	25	15	21	2	Prothonotary Warbler	---	3	6	c.
Pileated Woodpecker	1	1	3	3	Worm-eating Warbler	3	---	---	---
Red-bellied Woodpecker	---	4	7	c.	Golden-winged Warbler	3	5	---	---
Red-headed Woodpecker	1	3	3	2	Blue-winged Warbler	3*	---	---	---
Yellow-bel. Sapsucker	---	---	1	---	Tennessee Warbler	---	10	46	f.c.
Hairy Woodpecker	1	---	2	1	Nashville Warbler	---	---	1	---
Downy Woodpecker	5	4	6	2	Parula Warbler	14	---	4	---
Kingbird	16	10	2	2	Yellow Warbler	82	3	5	6
Crested Flycatcher	4	11	26	6	Magnolia Warbler	10	6	5	---
Phoebe	22	6	1*	2	Cape May Warbler	21	1	---	---
Acadian Flycatcher	---	9	4	f.c.	Black-thr. Blue Warbler	22	---	---	1
Least Flycatcher	28*	---	---	---	Myrtle Warbler	41	20	12	8
Wood Pewee	16	10	19	c.	Black-thr. Green Warbler	21	15	2	2
Horned Lark	5	2	---	---	Cerulean Warbler	4	5	1	c.
Tree Swallow	9	10	1	---	Blackburnian Warbler	4	5	2	3
Bank Swallow	---	2	---	---	Sycamore Warbler	---	---	6	3
Rough-winged Swallow	27	30	2	1	Chestnut-sided Warbler	29	15	2	3
Barn Swallow	12	5	---	2	Bay-breasted Warbler	3	5	---	8
Cliff Swallow	9	20	---	---	Black-poll Warbler	4	10	---	5
Purple Martin	8	12	4	1	Pine Warbler	2	4	---	---
Blue Jay	18	25	33	12	Prairie Warbler	1	2	---	---
Raven	1*	---	---	---	Palm Warbler	7	25	1	6
Crow	47	14	8	6	Ovenbird	33	3	2	3
Black-capped Chickadee	2*	---	---	---	Louisiana Waterthrush	1	6	1	f.c.
Carolina Chickadee	27	10	10	f.c.	Kentucky Warbler	7	8	8	4
Tufted Titmouse	14	12	4	f.c.	Mourning Warbler	---	---	---	3
White-br. Nuthatch	---	---	1	---	Maryland Yellow-throat	41	10	24	6
Red-br. Nuthatch	4*	---	---	---	Yellow-breasted Chat	16	10	33	5

	Elizabethton & Roan Min.	Knoxville	Memphis	Nashville		Elizabethton & Roan Min.	Knoxville	Memphis	Nashville
Hooded Warbler	6	2	14	5	Painted Bunting	---	---	5	---
Wilson's Warbler	1	---	---	---	Dickcissel	---	---	200*	6
Canada Warbler	9	3	---	2	Purple Finch	4	6	6	---
Redstart	20	10	18	5	Goldfinch	576	10	10	12
English Sparrow	200	c.	16	25	Towhee	65	30	1	4
Bobolink	51	---	14	12	Savannah Sparrow	---	3	4	---
Eastern Meadowlark	55	10	18	5	Grasshopper Sparrow	22	5	3	6
Red-winged Blackbird	21	25	33	3	Bachman's Sparrow	---	---	---	1
Orchard Oriole	8	2	34	3	Junco	51*	---	---	---
Baltimore Oriole	13	3	17	2	Chipping Sparrow	32	10	6	3
Bronzed Grackle	181	10	62	4	Field Sparrow	55	10	3	6
Cowbird	15	14	35	6	White-crowned Sparrow	33	---	3	1
Scarlet Tanager	8	20	3	4	White-throated Sparrow	21	25	38	f.c.
Summer Tanager	2	25	18	f.c.	Lincoln's Sparrow	---	---	5	---
Cardinal	52	40	63	c.	Swamp Sparrow	6	2	5	---
Rose-br. Grosbeak	26	5	3	4	Song Sparrow	89	15	---	---
Indigo Bunting	44	15	129	c.	Total Species	115	107	115	107

THE ROUND TABLE

UNUSUAL FLIGHT OF AMERICAN EGRET.—During a trip to Reelfoot Lake, Tennessee, on April 18, 1947, I observed what appeared to be an unusual flight of an American Egret. This bird seemed to be riding the air currents, and for perhaps 15 minutes I did not see the bird move its wings even once. The bird was perhaps 400 or 500 feet in the air, but was easily observed, and identification was certain. Such a flight is unusual for this group of birds. This particular bird seemed to be merely enjoying sailing about in the air riding the air currents.—CLARENCE COTTAM, Assistant Director, Fish and Wildlife Service, U. S. Department of the Interior.

SORA RAIL AT 3800 FT. ALTITUDE.—At about 11 A.M. on May 7, 1947, Edmund Daly and Herrick Brown of the Water Control Department of Tennessee Valley Authority observed a Sora Rail near a pile of brush along the Appalachian Trail in the vicinity of McQueen's Knob fire tower on the crest of Holston Mountain above Shady Valley in Johnson County. The elevation of this point is 3800 feet. The Rail was on the ground and did not move until approached to within approximately five feet. Then it tried to hide by running to the other side of the brush pile and persisted in doing so when followed, until it finally disappeared in the undergrowth. Considering that the habitat and high elevation are unusual for a bird of this species, it is assumed the Sora was resting on its migration flight. The only other record of this species in the territory of the Elizabethton Chapter dates back to May 6, 1945, when, on the Chapter's Spring Field Day, one individual was seen by the writer in the Watauga River bottom lands above Elizabethton at an elevation of approximately 1600 feet.—FRED W. BEHREND, 606 West "D" Street, Elizabethton, Tenn.

A MIGRANT SHRIKE CHASES A CARDINAL—On Sunday, February 23, 1947, I was sitting in my room when I heard something hit the window with a thud. When I went to the door to investigate, I saw a female Cardinal lying on the snow apparently dead. A Migrant Shrike was within a few feet of the Cardinal, and I could hardly frighten it away. Evidently the Shrike was chasing the Cardinal when she flew against my window. I picked her up and saw that she was still alive. I brought her into the warm room and kept her for several minutes and then released her from the room. She flew off readily seemingly none the worse for her experience.—GEORGE DAVIS, Middle Tennessee State College, Murfreesboro State College, Murfreesboro, Tenn.

DICKCISSELS IN THE KNOXVILLE AREA—On May 19th, 1947, an estimated four pairs of Dickcissels were discovered singing in a field of clover at the University of Tennessee Blount County Farm, which is located in Mimosa Heights one mile west of Rockford. One pair was engaged in coition. On June 4th I returned with Dr. Joseph C. Howell, who confirmed their identity. On this second trip the birds were heard singing in three adjacent fields belonging to the Tipton, Anderson, and University of Tennessee farms. No nests were sought, as our time was necessarily devoted to another matter.

This site has an elevation of approximately 900 feet, and is in the heart of one of the largest areas of fields in the Knoxville area.

This record is significant because of the rarity of Dickcissels during the nesting season this far east. G. S. Smith described two nests of this species found forty miles northeast of this area at Morristown in Hamblen County, published in the "Oologist" for March 1870. Ruth Reed Nevius reported (MIGRANT 1944, p. 32) a pair in Green County and mentioned other Dickcissel records from near Maryville and Sweetwater, all in East Tennessee.—ARTHUR A. McMURRAY, University of Tennessee, Knoxville, Tenn.

TWO NEW BIRDS FOR SHADY VALLEY—In the month of June, 1934, Messrs. A. F. Ganier and Bruce P. Tyler spent a week in Shady Valley, in Johnson County in extreme northeastern Tennessee, studying the birds and enjoying the hospitality of the Valley. An account of this trip, with a list of the birds observed, is given in THE MIGRANT for June 1934 (Vol. 5, p. 21), written by the golden pen of Mr. Ganier, which paper should be read as being introductory to this. It is the object of this item to report to the T. O. S. the appearance in Shady Valley of one bird not heretofore recorded as nesting in the Valley and one not before listed as appearing in Tennessee.

On May 24, 1947, Bruce P. Tyler and Robert B. Lyle spent the day in Shady Valley, listing fifty-four species, among which are the following:

ARKANSAS KINGBIRD (*Tyrannus verticalis*). A pair of these birds was observed at the lower end of Shady Valley, where Beaver Dam Creek passes the Backbone Rock. The birds were very tame and gave abundant time for observation and study as they fed on insects over the creek, returning

continually to perches on the face of the cliff.

Dr. Roberts reports this western species as drifting eastward, and in 1934, as being common as far east as the Mississippi River. Forbush and May note the same tendency to move eastward. Chapman lists it as accidental but extending eastward. It may be that this beautiful and interesting bird is making its bow to Tennessee.

HOUSE WREN (*Troglodytes aedon*). Our attention was called to this bird by its characteristic song. The nest was soon located in a hole in the top of a fence post in cleared land, and was found to contain two eggs. The House Wren has lived rather abundantly in the valley extending from Bristol to Roanoke, Virginia, but it rarely crosses the line into Tennessee. Mr. Lyle has a record of a House Wren nesting in 1913 near Johnson City. In 1945 there were two birds singing in separate parts of Johnson City; no nests were located and the birds did not appear in following years. Since 1910 the Bewick's Wren has been the regular wren building about houses in the Johnson City area. Recently the Bewick's Wren has appeared in greatly reduced numbers. When these two Wrens meet, they fight to the death. It may be that time will replace the Bewick's with the House Wren in this locality.

Another bird observed on this trip was a single female Wild Turkey, seen just above the road near Backbone Rock. Reports have it that these birds are not uncommon in the mountains above the Valley, but they have apparently not been recorded before on field trips and census in this area. —BRUCE P. TYLER and ROBERT B. LYLE, Johnson City, Tennessee.

THE 1947 ANNUAL MEETING OF THE T. O. S.

The annual meeting of the Tennessee Ornithological Society was held in Nashville on May 10 and 11, 1947. Activities began on Saturday, May 10, with a field trip to Radnor Lake. From there the group, in a motorcade of about eight cars, traveled to Dr. Spofford's home to see his falcons and Bald Eagle, to Mrs. Laskey's home to see her bird-banding station and records, to a restaurant for lunch, and finally to Mr. Ganier's home to inspect his collections and library. The business meeting of the Board of Directors was held in Mr. Ganier's yard that afternoon; this meeting was frequently interrupted by some member of the board raising his binoculars to study a bird in the trees overhead.

In the evening an informal dinner was held at the B. and W. Cafeteria, and this was followed by an entertaining round of stories, introductions, and reminiscences. Several of the visitors slept that night at the cabins of some of the Nashville members on Stone River.

Sunday began early for those on Stone River with a field trip in that vicinity. At 8:00 A.M. the entire group met in Nashville, and then drove to Indian Lake. The field trip held there is described elsewhere in this issue. In the early afternoon a picnic lunch was eaten, and then the annual meeting of the T.O.S. was held under the trees. At the adjournment of this meeting the group separated to all corners of the state.

At the business meeting of the Board of Directors on Saturday afternoon, sixteen directors or their proxies and officers of the Society were present.

The primary business of this meeting was the discussion and preparation of resolutions to be acted upon by the membership meeting on the following day. At the membership meeting on May 11th at Indian Lake, ninety-one members and guests were present. Dr. L. R. Herndon presided at both meetings, and the Secretary, Mr. Fred W. Behrend, recorded the minutes of the meetings. The following paragraphs are quoted from the Secretary's minutes of the second meeting and describe the most important business transacted:

"Without discussion the following resolutions adopted by the Board of Directors in their meeting on May 10, 1947, were, on motion duly made and seconded, voted on by the members and unanimously carried:

"To adjust membership dues as follows: Life members \$50.00, Sustaining members \$5.00 per year (\$4.00 to go to the Society, \$1.00 to remain with the Chapter), Active members \$1.50 per year (Chapters may add to this not exceeding \$.50), Corresponding members and subscribers to THE MIGRANT \$1.00 per year, Junior members (under 17 years of age) \$1.00 per year; and to accept, at chapter discretion, family memberships and memberships of institutions and organizations such as museums, scout troops, etc., the dues of such memberships to be at the rate of dues for one person, namely, \$1.50 per year.

"To waive the provision of the Society's constitution requiring 30 days notice in writing to the Active members prior to the next annual meeting with respect to amendment of the constitution necessary as a result of the aforementioned adjustment of dues, and to make the new rates of dues effective January 1, 1948.

"To refer proposed revision of the Society's constitution to a committee to be appointed by the President, this committee to submit its recommendations in time sufficient to give thirty days written notice to the Active members prior to the next annual meeting, as required by the constitution, of changes contemplated. Whereupon the President appointed a committee of three, comprised of Dr. George R. Mayfield (Chairman), Mr. Ben H. Abernathy, and Mrs. Emily Barry Walker, all of the Nashville Chapter, to study and report proposed revision of the constitution in accordance with the above."

"The question of raising an amount of approximately \$150.00 to bring the monies accumulated in the Society's Endowment Fund up to \$450.00 and match an equal amount still in possession of the Tennessee Audubon Society and available to T.O.S. if and when matched, was discussed. Motion was made, seconded and carried to initiate a campaign towards raising the sum of \$150 and approve recommendation made by the Board of Directors in their meeting on May 10, 1947, to place administration and investment of the Fund in the hands of the Finance Committee, with the cooperation of Mr. Ben H. Abernathy, member of the Middle Tennessee grand division of the committee to promote the Endowment. Mr. Dixon Merritt, making a contribution to the Fund on the spot, invited the others present to follow suit, with the result that a total of \$83.00 was donated (by twenty individuals or couples) in cash or pledges, leaving a balance of approximate-

ly \$70.00 to be raised by July 1 latest. The President expressed himself to the effect that one way of obtaining this amount would be allocation among the chapters of the three grand divisions. He felt sure the East Tennessee grand division would raise its share by that date.

"The President urged that the membership committees of the various chapters endeavor to secure additional members and in particular solicit membership of younger prospects. Mr. Ganier commended the outstanding job done in this respect by the Memphis Chapter.

"The meeting, on motion duly made, seconded and unanimously carried, accepted the resolution adopted by the Board of Directors in their meeting on May 10, 1947, to petition the United States Fish and Wildlife Service to shorten the hunting season of migratory waterfowl to thirty days, the daily bag limit to five birds, and the possession limit to five birds. The President instructed the Secretary to prepare and file the petition with the Fish and Wildlife Service."

"The President asked Dr. Mayfield to conduct proceedings for the nomination and election of State officers to serve during the year 1947/48. Upon suggestion of Mr. Mayfield, the meeting approved action taken by the Board of Directors on May 10 in recommending continuation of present State officers in office for the year 1947/48, and in accordance therewith reelected officers unanimously by acclamation as follows: President, Dr. Lee Roy Herndon; Secretary, Mr. Fred W. Behrend; Treasurer, Mr. Lawrence C. Kent; Curator, Mr. Albert F. Ganier; Editor, Dr. James T. Tanner."

In addition, the following individuals were elected unanimously for these offices: Mrs. M. L. Torti of Memphis as Vice President for West Tennessee; Mrs. Emily Barry Walker of Nashville as Vice President for Middle Tennessee; Miss Elise Morrell of Knoxville as Vice President for East Tennessee; Reverend Robert L. Witt of Henderson as Director-at-Large for Middle Tennessee; and Mr. Robert J. Dunbar of Oak Ridge as Director-at-Large for East Tennessee.

Of the 91 people attending the annual meeting, 60 were from Nashville; 11 each from Knoxville and Memphis; 2 each from Elizabethton, Oak Ridge, and Hopkinsville in Kentucky; and 1 each from Kingsport, Lebanon, and Murfreesboro. All visitors were grateful to the Nashville Chapter for the excellent program, the fine lunch on the field day, and the hospitality shown everywhere. All agreed that it was a successful meeting.

NOTES HERE AND THERE

An ornithology course is being taught this summer at the University of Tennessee for the first time in several years. Thirteen students are enrolled, including three T. O. S. members of the Knoxville area who are auditing the course. It is being taught by Dr. J. C. Howell and Dr. J. T. Tanner.

The Elizabethton Chapter has planned an excellent series of programs and field trips for the remainder of the year. Perhaps most interesting is a well planned series of field trips to observe the fall migration of hawks along the mountain ridges. There will be more on this subject in the September issue of THE MIGRANT, as this idea can be developed into a valuable cooperative project for the T. O. S.

THE MIGRANT

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All items for publication should be sent to

James T. Tanner, Editor, Department of Zoology, University of Tennessee,
Knoxville, Tennessee

The Tennessee Ornithological Society was founded, October 1915.

Publication of THE MIGRANT was begun, March 1930.

*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

EDITORIAL

Ducks are few, and many people are worried about their scarcity. From the 1930's to 1944 the waterfowl increased in numbers and their future seemed bright, then came the decline. The number of ducks on the continent in January 1946, estimated by the Fish and Wildlife Service, is less than half of the 1944 estimate—a decrease of more than fifty percent in two years. During the same years the number of duck hunters has increased. These two opposing trends are the causes of the worry. No person has yet confidently put his finger on the cause or causes of the decline in the number of ducks, but everyone concerned has decided that something needs to be done.

What should be the attitude to this problem of the student of birds? There is a great temptation to say, "Let the duck hunter worry about it; if he kills all of the ducks, that will show him!" But further thought will find reason why we should be interested, and actively interested. First, extinction is irreversible; if all the ducks of any species were killed, never again would we see even one of them. Then it would be too late. Secondly, we do like to see and watch ducks. As reservoirs are being created in Middle and East Tennessee, many people are looking forward to seeing more and more ducks upon them. And we hope that those who follow us will be able to see and enjoy them. Lastly, as students of birds, we should have some appreciation of the nesting, feeding, and migration habits affecting the numbers of ducks. Our opinion should carry some weight, and that authority entails responsibility.

Some action has already been taken; the T. O. S. at its annual meeting approved a resolution, later forwarded to the Fish and Wildlife Service, that the season and bag limit be reduced. Probably the most important way, in the long run, in which we can help is this: To see that our federal technicians and officers in the Fish and Wildlife Service are and remain the best men available, and then to support their expert judgements and decisions made for the best interests of all.

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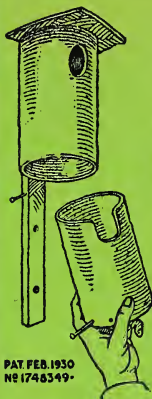
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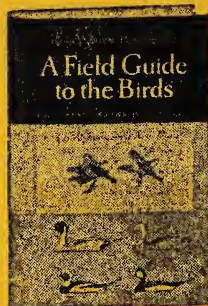
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SOME BOLIVAR COUNTY, MISSISSIPPI, BIRDS

By MERRITT G. VAIDEN

From time to time during the past 10 years I have published articles on the different birds collected by me, which I thought might be of interest to the general ornithological public and more especially to those interested in migration and ranges of different species and subspecies. The greater number of articles have been published in 'The Migrant,' official organ of the Tennessee Ornithological Society, and 'The Oologist,' published privately by the late Judge R. M. Barnes of Lacon, Illinois. A few notes have been published in 'The Wilson Bulletin' and 'The Auk.'

This paper includes additional records based on specimens collected by the writer during recent years. All specimens mentioned in this paper are in my private collection.

Without the unfailing assistance of Dr. Alexander Wetmore, Secretary of the Smithsonian Institution, Washington 25, D. C., and Dr. John W. Aldrich and Dr. Allen Duvall, of the Fish and Wildlife Service, Washington 25, D. C., this paper would not have been possible. These scientists have been very patient with me and have identified all of the forms listed in this paper. Where necessary they have confirmed my specific identifications. I owe them a special debt of gratitude.

LIST OF SPECIES

American Golden-eye, *Glaucionetta clangula americana*. A female of this species, now in my collection, was taken on December 1, 1946, by Wally Welshans, Jr., while hunting at Lake Concordia.

Little Sparrow Hawk, *Falco sparverius paulus*. Dr. Allen Duvall identified a specimen taken on October 13, 1945, a male, as this form. It was taken at Black's Cypress Brake. Additional collecting may prove this form to be the breeding one at this locality.

Interior Bob-white, *Colinus virginianus mexicanus*. Dr. John W. Aldrich in his recent paper ("The United States Races of the Bob-white," The Auk, Vol. 63: 493-508, 1946) has called our subspecies *mexicanus*. A specimen was taken on January 18, 1946.

Virginia Rail, *Rallus limicola limicola*. My collection contains a male that had been injured against a telephone wire along a country road where it was captured by C. W. Sosebee on May 8, 1947. A Sora was found dead at the same time. Nine rails were seen during the morning by Mr. Sosebee.

Red-backed Sandpiper, *Erolia alpina pacifica*. On November 14, 1945, a

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male of this species was taken from a barrow pit near Lake Beulah. It is my only record of this species.

Black-billed Cuckoo, **Coccyzus erythrophthalmus**. This species became common on April 25, 1945, and before the end of May they were more plentiful than the Yellow-billed Cuckoo. The last one was observed, on June 2, 1945. Six specimens were taken during May. On September 30 (1945), they again became common when I found them feeding high in the native pecan trees. One, a male, was collected.

Yellow-bellied Flycatcher, **Empidonax flaviventris**. I have five specimens taken at different localities in western Bolivar County on September 24 (1944); August 7, 11, and September 7, and 15 (1945). Additional collecting should prove this not a rare bird in its migration through this territory. The specimen taken on August 7, 1945, was in association with a Bay-breasted Warbler. Both were immature birds.

Alder Flycatcher, **Empidonax traillii traillii**. Considerable collecting should find this species a fairly common fall and late summer migrant. I have no spring collected birds. I have specimens taken August 25, September 7, 15 (two), and 16, 1945.

Least Flycatcher, **Empidonax minimus**. During May and in August and September this small flycatcher is common. I have ten specimens in my collection.

Northern Cliff Swallow, **Petrochelidon pyrrhonota pyrrhonota**. On August 31, 1940, thousands of these birds migrated through here. Again on August 29, 1946, at Welshans Slough, many hundreds mingled with other swallows. Four specimens were secured, three males and one female. Occasionally a spring sight record is available. These birds seemingly do not regularly migrate thru this territory, or they are overlooked unless appearing in great numbers.

Florida White-breasted Nuthatch, **Sitta carolinensis carolinensis**. Birds secured on April 2, 1944, and October 1, 1945, were identified as this form. Both specimens were females.

Eastern Brown Creeper, **Certhia familiaris americana**. I have twelve identified specimens of the creeper; it is interesting to note that six are assigned to the nominate race and six to the southern race, **nigrescens**.

Southern Brown Creeper, **Certhia familiaris nigrescens**. See comments given for **americana**.

Eastern Winter Wren, **Troglodytes troglodytes hiemalis**. I have six specimens identified as this form, all taken during winter months.

Southern Winter Wren, **Troglodytes troglodytes pullus**. A bird taken on November 4, 1944, a male, was identified by Dr. Duvall as this form.

Southern Loggerhead Shrike, **Lanius ludovicianus ludovicianus**. The birds I have had identified from this locality form an interesting picture.

The specimens are about equally divided between **ludovicianus** and **migrans**. Specimens identified as **ludovicianus** were taken on November 12, and December 6, 1943; February 13, 1944; and January 7, 1945.

Migrant Loggerhead Shrike, **Lanius ludovicianus migrans**. A specimen taken on December 22, 1938, was named **migrans** with the notation as "not typical." A male specimen taken on June 14, 1944, was also called **migrans** and again noted as "not typical." A bird of July 31, 1945, a male, was called **migrans** but closely approaching **ludovicianus**. Specimens taken July 18, 1944, and July 22 and 31, 1945, were called **migrans**.

Black and White Warbler, **Mniotilta varia**. A bird of this species was taken on June 4, 1944. It was a female in molting plumage; the skull was ossified and the sex organs dormant. One was seen by G. A. Thompson, Jr., at Legion Lake on June 27, 1946. A specimen taken on July 14, 1945, a male, was in good plumage. It is probable that in suitable localities the species is breeding here. However, no nest has been located.

Golden-winged Warbler, **Vermivora chrysoptera**. A beautiful male specimen was collected August 29, 1945, near Old River Lake. It is my first record.

Eastern Yellow Warbler, **Dendroica petechia aestiva**. This form is the common migrant through here as thirteen of eighteen specimens in my collection identified to date, taken in spring and fall, proved to be **aestiva**.

Alaska Yellow Warbler, **Dendroica petechia rubiginosa**. An immature female collected at Willow Slough on September 10, 1945, was identified as this form.

Newfoundland Yellow Warbler, **Dendroica petechia amnicola**. A female taken May 20, 1934, and males collected August 28 and September 15, 1945, were identified as this subspecies. A bird taken September 10, 1945, was assigned to **aestiva** but with notation that it approached **amnicola**.

Cape May Warbler, **Dendroica tigrina**. A male collected May 9, 1945, at Willow Slough, proved to be my only record.

Myrtle Warbler, **Dendroica coronata coronata**. A specimen of unusual interest is an immature male taken on October 13, 1945, one mile north of Rosedale near Welshans Slough. A comment by Dr. Allen Duvall on the label "white in 4 outer tail feathers suggests hybridization with **D. auduboni**."

Western Palm Warbler, **Dendroica palmarum palmarum**. Two birds taken on February 18 and 22, 1945, at Thompson's Woods were assigned to this race. Both were immature birds, one a male and the other a female. These are my only winter records.

Yellow Palm Warbler, **Dendroica palmarum hypochrysea**. An immature male taken on February 18, and an adult female collected on February 22, 1945, proved to this race wintering here with the Western Palm Warbler.

Eastern Oven-bird, **Seiurus aurocapillus aurocapillus**. This is the usual

race to be found in migration here. The Oven-bird is a much more plentiful spring than fall migrant. Of eleven specimens identified eight proved to be the nominate race.

Newfoundland Oven-bird, **Seiurus aurocapillus furvoir**. I have two specimens taken on May 13, and September 15, 1945, that proved to be this recently described race.

Gray Oven-bird, **Seiurus aurocapillus cinereus**. A bird taken May 14, 1944, a female, nine miles south of Rosedale, was identified by Dr. John Aldrich as this race.

British Columbia Water-thrush, **Seiurus noveboracensis linnaeus**. Three birds taken on August 19 and September 8 and 10, 1944, were called this recently described race. It is a race described by McCabe & Miller (Condor, 35 (5): 192-196. 1933).

Mourning Warbler, **Oporornis philadelphia**. During migration among small, dense-growth willows bordering a heavy woodland area these birds proved very common from September 1 to 14, 1946. The locality was just west of the levee and near Old River Lake. Specimens were taken on September 1, 4, 6, 7, and 14. Prior to this concentration only one record was available from Bolivar County, a male taken on May 19, 1945, at G. A. Thompson's yard in the town of Rosedale.

Wilson's Warbler, **Wilsonia pusilla pusilla**. My first collected specimen was a male taken at Black's Cypress Brake on September 10, 1944. Since that date many have been found and a few birds have been collected.

Canada Warbler, **Wilsonia canadensis**. May and September are the favored months of migration for this pretty warbler. It is a much more abundant fall than spring migrant.

Pine Siskin, **Spinus pinus pinus**. I have many sight records for this species. Some years this bird is common in migration with the 'waves' of Goldfinches that pass through. Beginning with April 23 and ending with May 5, 1947, the Goldfinches moved through in ever increasing numbers, and daily a few Pine Siskins were noted. The opportunity for gun, bird, and man to meet was the objective for several days. On May 3, 1947, sixty-one Pine Siskins were counted and from this number six were secured. These birds were feeding in my yard with Goldfinches on the seeds of the American Elm, **Ulmus americana**. There is only one other record of a specimen taken in Mississippi, that of M. L. Miles, Vicksburg, Mississippi, on January 23, 1942, (The Auk, vol. 60, pages 606-607).

Red-eyed Towhee, **Pipilo erythrophthalmus erythrophthalmus**. I have found the towhee in suitable habitat throughout the Yazoo-Mississippi Delta and in the hills of central Mississippi, wherever I have spent a few hours in search for this bird in spring and in summer. See comment on the form inhabiting Bolivar County under **canaster**.

Alabama Towhee, **Pipilo erythrophthalmus canaster**. A most interesting

condition occurs at Rosedale. Two birds, females, taken at Legion Lake on April 10, 1947, and donated to Dr. Alexander Wetmore of the United States National Museum, were identified as intermediates with this comment, "I have withheld acknowledgement for a few days until I had opportunity to compare these birds with some other specimens. As Dr. Aldrich has written you earlier the towhees of your section seem exactly intermediate between typical *erythrophthalmus* and *canaster*. In fact we are inclined to believe that the line of intergradation must pass directly through Rosedale." The reproductive organs were 100 per cent developed in the two specimens. I give here data (Table 1) for ten specimens identified by Dr. Allen Duvall during 1946, which will give certain critical information on the forms.

TABLE I

Collection Date	Sex	Percent Enlargement of Sex Organs	Assigned to:	Year Assigned
11/16/1938	M	....	<i>erythrophthalmus</i> > <i>canaster</i>	1946
11/16/1938	M	....	<i>erythrophthalmus</i>	1946
2/18/1945	F	....	<i>erythrophthalmus</i> > <i>canaster</i>	1946
7/ 5/1939	M	80	<i>erythrophthalmus</i> > <i>canaster</i>	1946
4/30/1944	F	100	<i>erythrophthalmus</i>	1946
6/28/1945	M	100	<i>erythrophthalmus</i> > <i>canaster</i>	1946
3/ 4/1945	F	60-70	<i>erythrophthalmus</i> > <i>canaster</i>	1946
7/29/1945	M	90-100	<i>erythrophthalmus</i> > <i>canaster</i>	1946
7/29/1945	M	100	<i>erythrophthalmus</i> > <i>canaster</i>	1946

The birds taken on July 29, 1945, were in full song and perched at the top of tall trees some 300 yards apart.

(A male specimen taken in dry heavy-growth woods growing along a steep hillside two miles west of Winona, Montgomery County, had on July 9, 1945, sex organs fully developed. The bird was in full song. It was also called *erythrophthalmus*>*canaster*.)

Eastern Savannah Sparrow, *Passerculus sandwichensis savanna*. I have 4 specimens of this subspecies. Of sixty-two identified species of the Savannah parrow only 4 were of this race. They were taken in March and April.

Labrador Savannah Sparrow, *Passerculus sandwichensis labradorius*. This form, the breeding race of Newfoundland and Labrador, is also occasionally a visitor to our area. Eight specimens taken here prove a reasonable amount of migration to the southwest of the breeding territory.

Nevada Savannah Sparrow, *Passerculus sandwichensis nevadensis*. Birds taken on April 18, 1944, and March 11, and 25, 1945, were identified as this form. It seems to be a rare migrant here.

Churchill Savannah Sparrow, *Passerculus sandwichensis oblitus*. Indications are that this form is mainly a migrant through this area; probably wintering in Southern Louisiana and the coast of Texas.

Southeastern Savannah Sparrow, *Passerculus sandwichensis mediogriseus*. This form is the recently described one by Dr. John W. Aldrich, (Ohio

Journal of Science, Vol. 40, No. 1, 1940), and seems to be a fairly common subspecies during migration in March and April when fourteen of my twenty-two identified specimens were taken. A summary of the forms taken here is given in Table 2.

TABLE 2

Form	Jan.	Feb.	Mar.	Apr.	Oct.	Nov.	Dec.	Total
savannah			3	1				4
• labradorius	1		2	4		1		8
nevadensis			2	1				3
oblitus		1	11	12	1			25
mediogriseus	2		9	5		4	2	22
	3	1	27	23	1	5	2	62

The preceding list of species and subspecies shows that many migrating birds have come to Bolivar County from widely separated areas; even birds belonging to the same species do so. Yellow Warblers came from Newfoundland and Alaska, both Palm Warblers and Ovenbirds from the northeastern and north central regions, and a Water Thrush from the northwest. Specimens of five subspecies of the Savannah Sparrow have been collected here, indicating that these birds come to this spot from a great area.

ROSEDALE, BOLIVAR COUNTY, MISSISSIPPI. June 12, 1947.

THE HOUSE SPARROW AT OAK RIDGE

By R. J. DUNBAR

As a general rule bird watchers in this country look upon the English or House Sparrow (*Passer domesticus*) as a nuisance rather than an interesting species; nor is this attitude without reason, for the House Sparrow is gregarious, noisy, pugnacious, aggressive, and it often drives some of our more desirable native birds from their nesting sites. Its ability to adapt itself quickly to new and changing conditions together with its high reproduction rate are factors that have enabled it to spread its range to practically all of the acceptable habitats in the United States and Canada. Although it is not a native bird, it is thoroughly naturalized, and its presence or habits can not easily be ignored or overlooked.

While the House Sparrow favors the environment around farm buildings, especially those where livestock is being reared, it is at home in towns and cities, or around almost any group of buildings within easy access of an adequate food supply. For food it probably prefers seeds or grain, but it will accept a large variety of natural as well as artificial foods.

The House Sparrow is non-migratory in the general meaning of the term, and if left undisturbed will live out its life in a relatively small area. Imagine, then, the effect that the sudden birth and rapid growth of the Atomic City, Oak Ridge, Tennessee, had upon the House Sparrow population in that section. Oak Ridge starting from scratch reached its peak pop-

ulation (75,000) in a period of less than three years. The town proper is located on the southern slope of Black Oak Ridge, which lies in the Northeast section of the Clinton Engineer Works in Anderson County between the L & N Railroad tracks on the East and the Roane-Anderson County Line on the West. The area covered is approximately seven miles long by an average of one and a quarter miles wide.

When I first visited the town site in late October, 1942, it was a quiet countryside, not unlike other rural communities in East Tennessee. A few weeks later, however, significant changes were beginning to take place. By the end of Spring, 1943, practically all the farm buildings had been razed. High ground was leveled off, low places were filled, new roads were built; thousands of men and machines were kept busy day and night until nothing familiar to the former residents remained.

The effect of these changes upon the home life of the sedentary House Sparrow must have been terrific for almost simultaneously its nesting sites and normal food supply were destroyed. Throughout the construction period, however, a new supply of food, in limited quantities and at irregular locations, became available to the House Sparrow in the form of crumbs and scraps from the lunches of many of the thousands of workmen in the area. Even so, it was only a few of the more hardy individuals that were able to survive. What became of the others is hard to say. Some may have moved to the adjoining farms, but here too, changes had taken place. All the farms within the 56,000 acres comprising the Clinton Engineer Works had been abandoned. The planting of crops had been stopped. Apparently these abandoned farms had difficulty in maintaining their normal year to year Sparrow population, for visits made to several such farms in 1944 and 1945 disclosed a very sparse House Sparrow population.

If we may assume that the areas outside the Clinton Engineer Works had all the House Sparrows they could accommodate, then we may logically ask: What became of the large number of these birds that originally inhabited the area on which Oak Ridge was constructed? Unfortunately, the stress of war did not permit making detailed observations in this direction. However, from casual observations, it is reasonably certain that only a small percentage of the original number remained active within the area. Those that did remain quickly made themselves at home around the first commercial buildings to be erected. Descendants of these hardy individuals as well as descendants of those that remained in the areas adjacent to the town began to infiltrate into the newly occupied residential section of Oak Ridge.

Our dwelling on Glendale Lane is located in the natural woods about one-third the way up the slope to the ridge. We picked the site before the construction commenced and moved into the new house before it was completely finished. Shortly thereafter we fastened a small feeding board to an oak tree about twelve feet from our dining room window. Almost immediately we were successful in attracting many native birds. We congratulated

ourselves upon the absence of the House Sparrow! For nearly three years we were not bothered by them, but during that time we watched them moving closer and closer to our house. They arrived in 1946 and are now well established in the vicinity. To my knowledge, there is not a single regular feeding station left in Oak Ridge that does not have the patronage of the House Sparrows.

The effects of the ever increasing House Sparrow population upon the other bird life in Oak Ridge is becoming evident. This spring (1947) there was a lively contest between the House Sparrows and a pair of Bluebirds for a bird house that we had erected. The Bluebirds won the round with the Sparrows, but their possession was not complete until they had driven a rival pair of Bluebirds from their area. The successful defenders have made good use of their ownership in that they have raised three broods, one of five, and two of four young birds each. The last brood of four birds left the nest on August 23.

Although the larger birds such as the Blue Jays, woodpeckers and tanagers have little difficulty in chasing the House Sparrows from our feeding board, the smaller birds are not so successful. On several occasions a White-breasted Nuthatch became very indignant when he found one or two House Sparrows on the feeding board ahead of him. On each such occasion the Nuthatch would walk down the tree toward the feeding Sparrows with his wings and tail feathers spread, his body swaying from side to side like a boxer sparring for an opening. For all of his beautiful display of feathers and belligerent attitude he would not approach closer than ten or twelve inches to the Sparrows. Consequently, they paid little or no attention to his efforts, nor did they leave until they were ready.

It is not unusual to see several House Sparrows using our bird bath at the same time, however, on Saturday, August 16, I was surprised to see a Chipping Sparrow enter the bath then occupied by four House Sparrows. The House Sparrows moved over to make room; the Chipping Sparrow moved in and splashed two or three times, after which all five birds left the bath. They all bathed so nonchalantly that I probably would not have noticed the incident had I not been watching the Chipping Sparrow before it flew to the bath. On the following Saturday, while watching four House Sparrows perched on the rim of the bird bath, an immature male Cardinal flew in and took up his position between two of the Sparrows. None of these birds made any attempt to bathe and after what seemed to be a long minute they all took flight.

Since the total number of House Sparrows occupying a given community will be influenced to a considerable degree by the number of regular feeding stations maintained within the community, it would be difficult to predict the future year when the House Sparrow population in Oak Ridge will reach its normal maximum. At this writing the House Sparrow population is definitely on the increase.

OBSERVATION OF HAWK MIGRATION

By LEE ROY HERNDON

During the past several years great concentrations of hawks have been observed in their southward migration along mountain ridges five hundred or more miles northeast of Tennessee. The two principal observation points are Hawk Mountain in eastern Pennsylvania and another mountain in the same chain in northwestern New Jersey.

All species of hawks common to northeastern United States, including both Bald and Golden Eagles pass over these points in appreciable numbers from late August to November. Elevated locations with abrupt descent affording an unobstructed view towards the northeast provide the most suitable locations for observing hawks in their fall migration. At these points favorable air currents—cool air drifting down from the northwest and rising along the mountain sides—make flight almost effortless; the birds sail southwestward supported by these air currents. No important concentrations have been reported south of the locations mentioned above. It is not known whether the migrating hawks continue in numbers along the mountains, or if they fan out and take individual courses from these points on southward.

It is known that several species of hawks winter in the eastern United States while other species winter in South America. The exact migration routes are not known.

In the fall of 1944 the Elizabethton Chapter of T. O. S. began a search for suitable places to observe hawk flights in this vicinity. Due to travel restrictions and a paucity of experienced observers for the first two years, only a few localities were investigated. The most promising location found was Hump Mountain just south of Elk Park, North Carolina. Also investigated were Beech Mountain near Banner Elk, and Grandfather Mountain near Linville, North Carolina. All three of these groups were covered by different groups of observers on October 13, 1946. As on previous occasions Hump Mountain proved far superior to the other mountains for hawk flights. Too few observations have been made from this location to warrant the drawing of any conclusions regarding the species which may be observed or the numbers of hawks passing over this point during a fall migration. The most hawks observed in any one day to date on a day's trip to Hump Mountain was fourteen on October 15, 1944.

The Elizabethton Chapter of T. O. S. proposes to find out something about the hawk migrations thru this area. A program has been planned for taking a hawk census on Hump Mountain at least once each week beginning with the first week in September and continuing until the middle of November or even later if the weather is favorable and hawks are still to be seen. This will be a group project as no one member will be able to make all of the trips. We realize that this program will give very meager coverage and that the chances are six to one that we will miss the best flights. We hope, however, to gain some idea of hawk migrations in this area. If the results are encouraging, as we hope they may be, better coverage at a later date may be planned.

There are other favorable spots for hawk observations, but we have not had an opportunity to investigate them. We expect to continue looking for likely locations, but our number is so small that it is impossible to investigate all the possible localities at once. We should like to enlist the co-operation of all of our T. O. S. chapters and members who possibly can be on the lookout for suitable locations for hawk flights. This should make a good cooperative project for the entire state, as we have two mountain ranges traversing the state and the plains area in the western part of the state.

Some data have been collected during the past several years on the wintering of Golden Eagles in Middle Tennessee. These may be the birds which pass over Hawk Mountain in the fall; however, I know of no authentic records of Golden Eagle migrations between these two widely separated points.

Any unusual observation of this nature should be recorded and reported for future publication.

1533 BURGIE STREET, ELIZABETHTON, TENNESSEE.

EDITOR'S NOTE—We hope that other chapters of T. O. S. may be able to cooperate in watching for evidence of hawk migrations. It took several years to reveal to bird students the value of Hawk Mountain in Pennsylvania as a place to observe migrating hawks and other birds. Now it is a mecca for that purpose. Something of the same thing might happen here in Tennessee. The places to look for hawk flights are long ridges which present a steep face to the wind; this creates upcurrents of air which give the hawks a free and easy ride on their way south. It will help if all observations bearing on hawk migrations will be reported to the Editor of THE MIGRANT.—J. T. T.

A MEMORIAL TO WILLIAM F. PEARSON

On July 29, 1947, William F. Pearson, well known bird enthusiast of East Tennessee, met an untimely death in Kingsport, Tennessee. Two days before, at the plant of the Tennessee Eastman Corporation where he was employed, he was helping to inspect the way in which rolls of pulp were secured inside box cars. One roll came loose just as the party started to enter the car and struck Mr. Pearson on the right shoulder, breaking several ribs and dislocating some vertebrae. He was conscious until a short time before his death and apparently was doing well.

Mr. Pearson was a native of Bristol, Tennessee, and a graduate of Emory and Henry College, Virginia. He went to work for the Tennessee Eastman Corporation on October 8, 1920, during the early days of the company's existence. He spent several years in various units of the Accounting Department, and then was transferred in 1942 to the Purchasing Department. He had never married. Survivors include a step-mother, Mrs. Ruby Pearson of Bristol, and a sister, Mrs. Lucy P. Malone of Dothan, Alabama.

All his life Pearson was intensely interested in the study of birds, and

he deeply regretted the fact that he had not taken his academic training in that field. The writer became acquainted with him in 1940 when Pearson became a member of the Johnson City Chapter of the Tennessee Ornithological Society, and since then has spent many happy hours with him on Roan Mountain in East Tennessee, White Top Mountain in Virginia, and in the Great Smoky Mountains National Park. Roan Mountain was perhaps his favorite of all of the mountains of East Tennessee, which he so dearly loved in which he spent every available moment.

Mr. Pearson's interests were varied, and he was surprisingly well versed in the fields of botany, geology, and astronomy as well as ornithology. Modest though he was, those close to him gained much valuable knowledge through exchange of ideas with him.

He had traveled extensively, having toured Europe, the Caribbean, parts of South America, all of continental United States, and parts of Canada. His long-planned tour of Alaska never materialized.

His almost Thoreau-like aloofness had always separated him from the crowd, but to have known him well was to have loved him. His presence and quiet humor will be missed by many friends on annual bird census trips in Knoxville, the Smokies, Nashville, and upper East Tennessee.—ALBERT E. HYDER, Roosevelt Game Preserve, Friendship, Ohio.

The last time I saw Bill Pearson a crowd of us had gone to the Buzzard's Roost. Bill was there when we got there. We sat among the river rocks and watched the buzzards float in. Bill's tragic death leaves a big gap in our bird club in Johnson City. He always came over from Kingsport regardless of weather or circumstances. His knowledge of birds gained thru the years was something he liked to share, but not in a boasting way. He always listened to your bird story, and you had more or less to pick his out of him. When we left him at Buzzard's Roost a few weeks ago, he told us that he would be over for our August meeting. He has gone on now, but when we meet again we will talk about him and count ourselves richer for having been with him on earth.—SARAH HUNTER JACKSON, Johnson City, Tennessee.

In the spring of 1944 after the organization of the Elizabethton Chapter of the T. O. S. in February of that year, some of our members met Bill Pearson at Knoxville on the occasion of their spring census. He was invited to participate in the Elizabethton Chapter's Census the following Sunday. Since the Johnson City Chapter was inactive at the time, he was a frequent guest of our chapter and took an active part in our field trips and all important occasions. He participated in most of our mountain trips for hawk investigations and contributed of his knowledge of outdoor life and nature in general. He participated in T. O. S. affairs over the state, attending the annual meetings in Nashville and was Vice President for East Tennessee in 1945 and 1946. The annual spring field day in Knoxville and the Christmas Bird Count at Gatlinburg were routine with him.

He was instrumental in the reorganization of the Johnson City Chapter

of T. O. S. of which he had been a member and of which chapter he was a director at the time of his death. Through him many people of upper East Tennessee have become interested in the birds of our area. He was a keen and competent observer and a genial scholarly companion.

He will be greatly missed by a host of friends and nature lovers throughout this area.—LEE ROY HERNDON, Elizabethton, Tenn.

THE ROUND TABLE

CLIFF SWALLOWS NESTING IN CARTER COUNTY, TENNESSEE—Cliff Swallows (*Petrochelidon pyrrhonota*) were reported to have nested on a bridge across the Nolichucky River in Unicoi County. A search was made for nesting birds at several possible sites along the river in this area during the summer of 1945 but none was found. Cliff Swallows have been reported on all four of the spring censuses of the Elizabethton Chapter, but only one additional summer observation was reported through 1945. In 1946 they were recorded on five occasions from May 5 to September 1st. The largest flock consisted of more than 500 individuals in Shady Valley on August 25. A flock of more than 80 birds were observed migrating early on the morning of September 1st.

On the morning of our spring census, May 4, 1947, Mrs. Herndon and the writer observed several pairs of this species carrying mud from the roadside as if building nests in a near-by barn. The location was about five miles due east of Elizabethton, near Siam, and about a mile down stream from Horse Shoe Dam on the Watauga River. We did not investigate further at this time. On May 17 several members of the chapter observed several birds about three-fourths of a mile farther down the Watauga River than the first observation, or near the point where the Siam Bridge crosses the Watauga River. On May 25 the birds were again observed in this area. On June 4, William Sutherland and the writer investigated the area and in the location first mentioned, after securing permission from the owner, Mr. Robert Collins, we found fifteen nests plastered to the joists inside the hall-way of a barn. All nests appeared to be occupied. They were lined with straw and some chicken feathers. Mr. Sutherland attempted a photograph of one group of the nests, but it did not turn out well. The other location, three-fourths of a mile down stream, was also investigated, and in the hall-way of the barn near the Siam Bridge fourteen occupied nests were found. The nests were plastered to the joists about nine feet above the ground. We built up a platform from which a Kodachrome photograph of five nests was taken at a distance of about six feet. This gave an excellent picture of the nests; the birds, however, were away from the nests at the time. There were approximately thirty birds in the vicinity which indicated that the young had not yet left the nests. We were told by the occupants of the near-by house that these birds had been there every summer since 1941. This is likely the case as there was evidence of nests for previous years on the joists where the current nests were attached. This

is the first concrete evidence we have had of Cliff Swallows nesting in this vicinity.

On August 9 the barns were visited but no birds were present. About one mile down the river more than two thousand birds were observed perched on four telephone wires. The birds occupied more than 100 feet of each of the four wires; I estimated there were five birds per foot as they were so close together that when another bird came in to alight at least one bird was forced to move over or leave to make room for the new arrival. Early on the morning of August 16 a big migration of swallows passed through Elizabethton. A search of the area on August 18 proved the area destitute of this species.—L. R. HERNDON, 1533 Burgie St., Elizabethton, Tenn.

UNUSUAL FEEDING HABIT OF CAROLINA CHICKADEE—For the past four winters we have maintained feeding stations on the kitchen window sill and in a basket about six feet from the window. The basket feeder was continually supplied with suet. Carolina Chickadees had occasionally been observed in our yard, but in March, 1947, a pair began to patronize the feed basket. Almost immediately pecan nut meats were added to the feed, and the Chickadees became daily visitors. Later on the ends of pecan shells were removed and the opened nuts were suspended about ten inches below branches by tying twine around the center of the nut and then to the branches. The Chickadees would alight on these nuts and feed on the nut meats while in an up-side-down position and while the nut and bird swung and rotated on the twine. After a few days one of the Chickadees perched on the branch just above a nut, reached down and grasped the twine with its bill, and then pulled the twine and nut up and puts its foot on the twine to hold it; it repeated the process three or four times until the nut could be grasped with the bill or feet, after which the nut was held against the perch by the bird's feet while the bird ate the meat at its leisure. Both birds were observed to perform this feat many times and regularly for a period of almost six weeks. This performance was very fascinating to observe and almost incredible unless observed.

One of the birds was captured and banded. About the middle of April they disappeared abruptly altho an abundant supply of food was maintained.—MRS. LOIS M. HERNDON, 1533 Burgie St., Elizabethton, Tenn.

EVENING GROSBEAKS IN VAN BUREN COUNTY, TENN.—On February 20, 1936, I was examining some property near the western boundary of Van Buren County along Rocky River, when I observed a flock of large finches. I had no field glasses, but did have a copy of Peterson's Guide in my pocket for reference. The yellow, black and white markings of the Evening Grosbeak were easily noted as the birds were comparatively tame and permitted close approach. The locality mentioned is a narrow valley which cuts deeply into the western face of the Cumberland Plateau. The weather was abnormally cold, the thermometer a few miles away at the Sedberry hotel at McMinnville having read two degrees above zero that morning and the previous day it had registered two below. This is only a

sight record and should receive that attention which sight records of rare birds deserve.—FREDERICK V. HEBARD, 1500 Walnut St. Bldg., Philadelphia, Pa.

BACHMAN'S SPARROW IN SULLIVAN COUNTY, TENNESSEE—There is reason to believe that Bachman's Sparrow (*Aimophila aestivalis*) is fairly common in East Tennessee. A pair of these birds has been observed at various intervals during the past eight months behind the writer's house in Blountville, Sullivan County, where five to ten acres of unused fields slope steeply upward to a patch of woodland densely packed with brush and vines. I have often listened to their singing, which Chapman says not even the Hermit Thrush can equal. I know the song well enough now to recognize it from short phrases, and have heard it in eight other places in Sullivan County. In two of these other places I have also seen the birds at close range. On May 4, 1947, at least six Bachman's Sparrows were seen by the writer and presumably were to have become a part of the Elizabethton Chapter's Spring Field Day report, altho none were listed from Elizabethton in the "Tabular Record of Spring Field Days" (MIGRANT, v. 18:25).

On August 12, Dr. Herndon and Mr. Behrend of Elizabethton came to Blountville and saw and heard the Bachman's Sparrows. Both agreed with the writer's identification altho neither had studied the species before.

I was unfamiliar with the Bachman's Sparrow's song before last summer. In April 1944, I observed a group of sparrows on the Kingsport-Knoxville highway near the Hawkins County line. I was unable to identify them. Their song suggested the White-crowned, Vesper, or perhaps Tree Sparrow, and the Field Sparrow not at all. I have long realized that the Bachman's Sparrow might occur in Sullivan County, but due to the general opinion that the song resembled that of the Field Sparrow, I felt it was hopelessly difficult to separate the two songs. One evening, however, I was entertaining a friend by playing recordings from Cornell University's Albert Brand Foundation "American Bird Songs." When the sing of the Pine-woods Sparrow was rendered (record 3A), I realized that we had Bachman's Sparrow (a subspecies or variety of the Pine-woods Sparrow) on our hill, and that I had also heard it elsewhere.

Mr. Bruce P. Tyler of Johnson City, who has studied the bird life of that region for many years, says that Bachman's Sparrow was once fairly common in Washington County, and that even at present he could always find one for anyone who wanted to observe the species.

At Dr. Herndon's suggestion, I am taking this bird for a nature study project.—THOMAS W. FINUCANE, Route 1, Blountville, Tennessee.

NOTES HERE AND THERE

THE ENDOWMENT FUND—The T. O. S. Endowment Committee is pleased to announce that the endowment fund has now reached the four hundred and fifty dollar mark. Several years ago the Tennessee Audubon Society agreed to turn over to the T. O. S. endowment fund a sum of four

hundred and fifty dollars, the gift of a wealthy New York lady, if the T. O. S. would raise an equal amount.

At the annual spring field day last May the progress of the campaign was discussed, and a number of those present generously responded with donations totaling over eighty dollars. Since that time a silent campaign has been going on, and the goal has been reached. We wish here to express our thanks and appreciation to all the individual members and chapters for their generosity in helping to raise this fund. We hope that the campaign will continue until the amount reaches a thousand dollars and beyond.

This money is to be invested, the proceeds from which will help meet the cost of getting out our publication, **THE MIGRANT**—B. H. ABERNATHY, Chairman Endowment Committee.

W. R. GETTYS EGG COLLECTION—For a number of years Tennessee Wesleyan College, Athens, Tennessee, has been the owner of an exceptional collection of bird eggs. This collection is a gift of the W. R. Gettys Estate and now bears the name of W. R. Gettys Egg Collection.

The collector assembled 743 sets of eggs, then exchanged 112 sets which leaves in the present collection 631 sets of eggs. These eggs represent most of the birds in this section of the United States, with several sets from foreign countries including Canada, Mexico, England, Scotland, Iceland, and Brazil. Mr. Gettys started his collection in the spring of 1897 and continued it until 1906 when his health failed. The records with the collection show that he was very accurate with his collecting and cataloging. Each egg set has its regular catalog number, the common and technical name of the birds, the place and time the collection was made. In many instances a short description of the nest is included. A careful record of exchanges with other collectors is a part of the records on file.

If the Tennessee Ornithological Society desires to do so, I shall be happy to have you meet at Tennessee Wesleyan College sometime during the year to study the W. R. Gettys Egg Collection.—**MISER R. RICHMOND**, Dean, Tennessee Wesleyan College, Athens, Tenn.

FIELD DAYS—On a recent visit to Knoxville, Dr. L. R. Herndon, president of T. O. S., suggested to several members of the Knoxville chapter that a fall field day similar to those held in the month of May might prove just as interesting and worthwhile. Fall migrants are not as conspicuous nor as numerous at any one time as are spring migrants, but for those reasons we know less about them. The Editor joins Dr. Herndon in urging chapters to plan a Fall Field Day sometime soon.

Before the next issue of **THE MIGRANT** appears, chapters will also have planned and accomplished the annual Christmas-time bird count. As has been done regularly, the December **MIGRANT** will be delayed to print the results of these counts.

The members of T. O. S. extend their sympathy to Dr. and Mrs. L. R. Herndon for the loss of their youngest son, Roger Herndon.

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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

EDITORIAL

The activities of birds, and of bird students, will soon change, as autumn is fast approaching with winter on its heels. Fall migrants (and autumn colors) will keep the scene changing for the next several weeks, and then the out-of-doors will settle down for the winter. Observations of birds in late fall and winter usually center around either the activities of birds at feeding stations or the winter roosting flocks.

The really successful feeding stations are those that are started as early as possible, for they have the best chance of being discovered by wandering birds. The reason usually given for making a feeding station is that it helps the birds thru the winter, but the human beings probably gain just as much as the birds. An individual person's interest in birds is usually first aroused by the attractiveness of their songs or plumage, or by a love for "all things both great and small", and then the interest frequently progresses to a great curiosity about the habits and lives of birds. A feeding station can both arouse the interest and help to satisfy the curiosity.

One of the spectacular sights of the bird world is the flocking of immense numbers of some kinds of birds to a winter roost. The blackbirds, starlings, or crows frequently converge from wide areas to roost in some dense patch of woods. Their lines of flight are traced in silhouette against a gray or orange sky, and at the roost, the rustle of wings and babble of voices continue well into dusk. In strong contrast to these birds are the Cardinal and Song Sparrow that disappear individually and usually quietly into a thicket at the close of day. For accounts of studies of these roosting habits, read in THE MIGRANT for March 1943 (v. 14, no. 1) pages 1 thru 5, for March 1944 (v. 15, no. 1) pages 9 thru 14, and for December 1945 (v. 16, no. 4) pages 62 thru 64.

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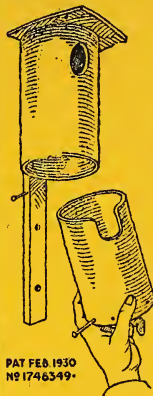
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A SUCCESSFUL NESTING OF THE PEREGRINE FALCON WITH THREE ADULTS PRESENT

By WALTER R. SPOFFORD

In an account (Spofford, 1945) of the occurrence of a pair of tree-nesting Peregrine Falcons (*Falco peregrinus*) near the Mississippi River in Western Tennessee in 1945, an unusual circumstance was brought to light in that three birds were present, an adult male, an adult female, and an immature year-old female. The male was the same as of previous years, but the original female was missing and her place was occupied by two new birds, an adult rather small and with pale pigmentation and an immature larger and richly colored. The male paid no attention to the small old female, who tried to receive his food pass, while the young female did not appear to respond to the display of the male. Neither female seemed to resent the presence of the other, in contrast to somewhat similar situations observed at other eyries. A tentative conclusion was reached at the time, that, an accident having befallen the original female, the display of the male brought in two females, one immature and too young apparently to respond to the male (in the present case), and the other apparently failing to arouse the interest of the male. Perhaps the latter female, very pale in color, was an old bird,—if so, the situation may recall the words of a then current song: "They are either too young or too old!". In any event, no nesting took place that year.

In 1946 a brief visit to the eyrie on April 10 showed no sign of occupancy (the tree was not climbed), but a bird was heard calling not far away, apparently joining with crows and Red-shoulders in heckling an owl. (Since the original female laid eggs in February and had large young in April, it seemed as if no nesting occurred that year, but since, as will be shown shortly, the new bird lays much later, it is possible that she was sitting when we visited the nest area in 1946).

The next visit to the eyrie was on February 22, 1947, with Mr. Thomas Butler of Paris, Tenn. We arrived close to the eyrie tree at 5:30 A. M., just as the sky became gray in the east. At six o'clock a number of small birds were calling or in song and Barred Owls were noisy. A moment later a short series of the 'short-wail' call from near the eyrie showed that one bird at least was on location, and in the next five minutes the calls were repeated several times. Then a Peregrine flew off southwest and disappeared until about 6:40. Meanwhile the woods was noisy with Red-shoulders and Barred Owls, and once a noise like an approaching express train preceded an immense flock of blackbirds and grackles flying

low through the swamp forest and out toward the open fields nearer the river.

A sharp "Kleep! Kleep! Kleechip!" announced a falcon back, and at once the male came in fast in a bank around the nest tree. Then a female appeared towing a grackle-sized bird (the male already having made the food pass) and lighted in a cypress top where she quietly went about eating her breakfast. The male came back for a few moments, then flew off again. Fifteen minutes later the female, her meal completed, flew close to the eyrie (a hollow limb about two feet in diameter broken off close to the trunk, some 85 feet up in a great cypress), and then somewhat later flew to a perch farther away. She returned at 7:10 to chase off two crows with two brief and shallow stoops.

We left the area for some hours, but at 4:00 p.m. we were back. At 4:15, after a period of quiet, the male returned swiftly and in a sizzling bank shot up into the nest closely followed by the rather small female we had seen in the morning, which perched now a few yards from the nest. Suddenly a second and larger female appeared in the top of a neighboring cypress. She left at once and the male immediately came out of the nest and went after her, leaving the small female to herself at the eyrie, where she at first gave the "Klee-chip!" call vociferously, and then gradually became quiet.

This situation was very similar to the observation of April, 1945. In March, 1947, Mr. Butler made additional notes somewhat similar to the above, but it was not until March 29 that we visited the site together again. At 8:30 A.M., a fairly large and richly marked female flew from near the eyrie into a perch not far away. One tail feather (middle or 'deck') and her wings were noticeably blunted as is the case with a bird that has been incubating, especially in narrow quarters. Seeing us, she scolded us with evident concern, "Kack!-Kack!-Kack!-Kack!" A little later the male came in and perched for a short time, then seeing me, flew off. At 9:45 a Red-shoulder came along through the trees (they were apparently nesting close by) and flew directly at the large falcon causing her to lose her balance; both birds flew away yelling. At 9:50 I approached the nest tree whence at once a small female flew out of the nest entrance and away. The male now circled overhead. Then the big dark female reappeared, flew in a half circle, and in a shallow stoop on nearly closed wings, rocking a bit as she 'slalomed' between the limbs, she dove into the nest cavity. There she turned around once or twice in the 'doorway' and then went in out of sight. For the next half hour the male circled quietly overhead.

At 10:45 I started up the tree, and only when sixty feet up did the male suddenly see me and begin an angry outcry. When just below the nest opening I put my hand up, at which there was a sharp hiss; then the falcon walked out onto the big limb forming a doorstep to the eyrie only a foot above my face. Without looking down to see me she sprang out, then circled and in a moment was in full battle-cry coming at me

in horizontal stoops.

The nest was a flattened area in a hollow limb base, open on the east. There was only a trace of the original 'scrape', but there were four eggs, two on each side of a small interval, where the falcon had placed her feet while incubating. Three eggs were mainly reddish with small irregular marks of darker red, while the fourth egg had a grape-purplish hue over the basic red. In all probability these were laid by a single bird, as it is a common occurrence that one egg of the four may be somewhat off color.

It is my opinion that these were laid by the larger, darker falcon. A reasonable interpretation of the observations recorded above is that in the early morning the male came in with food for the incubating female, that she came off to feed and at this time the smaller female went in to incubate. The large bird meanwhile stayed close by until the small female came off, and then she went back onto her eggs until my hand coming up in front of her face caused her to leave.

Three birds were still present during April 17-19, according to observations made by Mr. Butler, and actions indicated that the eggs had now hatched, but the tree was not climbed. More than a month later, however, on May 27, Mr. Butler did climb and found that the nest was now vacant. The young had left only recently, and one bird was heard calling nearby.

The successful nesting of the Peregrine with two females not only tolerating each other, but actually cooperating in incubation is an unusual situation at the least, and it would be interesting to know more of their relationships during the raising of young and during the non-breeding part of the year. It is hoped that, if this triangle still occurs next spring, further observations can be made.

VANDERBILT UNIVERSITY, NASHVILLE, TENNESSEE.

Ref. cited: Spofford, Walter R. 1945. MIGRANT, 16:56-58.

MOUNTAIN VIREO NESTS IN THE GREAT SMOKY MOUNTAINS

By HARVEY B. LOVELL

While camping at the Chimney Camp Site in the Great Smoky Mountains National Park in July, 1947, I made some observations on the nest of a Mountain Vireo (*Vireo solitarius alticola*).

Early on the morning of July 4, I heard the call of this vireo and quickly found the bird in my field glass in a nearby tree. It flew from branch to branch hunting insects and then went directly to a nest and began to feed young. The nest was situated far out on a slender limb ten feet from the trunk and only three feet from the end of the branch. The tree was a yellow birch (*Betula lutea*) only six inches in diameter.

The site chosen was close to the Little Pigeon River but over a rocky branch, fifteen feet above the boulders. The nesting site was surrounded and well shaded by several very large hemlocks, a giant sycamore, and a small oak. By climbing the tree I was able to look down upon the nest and observe the parents feeding the young. There were either three or four quite young nestlings, their nearly naked heads barely coming to the rim of the nest when gaping for food.

On several occasions while one parent was feeding, the other flew to the nest and also fed the young birds. One bird was observed to carry away a large sack of feces to a considerable distance. The young were fed very rapidly, the parents rarely remaining at the nest longer than five seconds.

As I had to leave the area on July 5, I asked Arthur Stupka, the Park Naturalist, to send me the empty nest after the young left. A month later I received from him a beautifully woven nest (hereafter called nest 2), but it clearly was a different nest since it was bound more extensively to the limb and was less ragged on the bottom than the one I had observed. It also contained, according to Mr. Stupka, four addled eggs. I then sent more accurate directions as to the location of the original nest and received on September 20 a second nest with this comment, "I am certain that this is the one in question; it was about 200 feet from the previous nest, and meets your description. Both nests were about 15 feet from the ground."

A comparison of the two nests may be of interest. Both were suspended in a fork near the end of a branch of a yellow birch. The diameters of the branches forming the forks were 7 and $4\frac{1}{2}$ mm. for nest 1, and 7 and 5 mm. for nest 2, certainly too slender to support the weight of man or any other large predatory animal. Both nests were woven out of shreds of bark and lined with fine grasses. The lining of nest 1 also contained about thirty reddish-brown sporophytes plucked from some moss, many of which still had the capsule attached. The outside of each nest was covered with thin papery materials, which proved to be scraps of paper evidently picked up around the camp site, and strips of yellow birch bark. The nests were also covered with the webbing of spiders and a half dozen old spider cocoons were included on nest 1. The main body of nest 1 (which was taken apart for examination) consisted of strips of bark running in all directions, giving the appearance of an interlacing network, and all stuck together with spider webs. Both nests were firmly bound to the two sides of the fork by more arthropod silk. Nest 1, which was 21 cm. in circumference, was bound to the branches by only one third of its rim, 4 cm. on one branch and 3 cm. on the other. Around the margins had been placed a considerable amount of green mosses, and some had been woven into the sides of both nests. I have not found moss mentioned in the descriptions of previous nests. Nest 1 had five pieces of pale green lichen stuck to the sides and some additional pieces were found buried beneath the layers of paper and bark. Burleigh (1925) observed lichens on Solitary Vireos' nests in northern Georgia and

has the following comment: "This habit of ornamenting the nest with green lichens, in the same manner as a Wood Pewee or a Blue-gray Gnatcatcher conceals its nest, is characteristic of this bird alone of all the eastern and possibly western Vireos, and is the more interesting in that this is only a subspecies occurring over a limited area." The combination of white paper, yellowish bark, and green lichens and mosses was not particularly concealing to the human eye at least. In fact the light color of the nest was quite conspicuous against the slender dark-hued branches on the birch.

Burleigh (1925) appears to have been the first to point out that the Mountain Vireo is two-brooded in northern Georgia. He states that the first brood occurs in April and early May and the second in June. He describes three June nests and one in July, the latter with newly hatched young on the fifteenth of that month. The present nest therefore falls late in the second nesting period and is one of the few July nests to be recorded for this subspecies.

These two nests were at a relatively low altitude for mountain species. Mr. Stupka stated that he considered the Chimney Camp Site (altitude 2750 feet) to be the low limit for the occurrence of most of the mountain species. However, Odum and Burleigh (1946) have recently pointed out that the Mountain Vireo is extending its range from the mountains into the Piedmont, where it selects "fairly mature but hot and dry pine woods for nesting, a rather striking contrast to the cool, usually deciduous, ravines occupied in the mountains." Powers (1936) has described a nest in a holly tree on the Appalachian Club grounds. His two photographs published in the MIGRANT show a bulky nest with an irregular ragged bottom, suspended in the fork of a holly tree.

The height from the ground of fifteen feet for these two nests is considerably higher than the average of eight feet reported by Ganier and Clebsch (1946) from the Unicoi Mountains in extreme southeastern Tennessee. Powers' nest was eight to ten feet up, and Ganier (1936) reported a nest on Roan Mountain nine feet up. However, Burleigh (1925) for Georgia listed nests at twelve, eighteen, and twenty-five feet.

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BIOLOGY DEPARTMENT, UNIVERSITY OF LOUISVILLE, LOUISVILLE, KENTUCKY.

THE 1947 CHRISTMAS SEASON BIRD COUNT

By T. O. S. MEMBERS

The annual bird counts were held at nine different places in Tennessee, on five different dates from December 19 to 28, 1947. At five of the localities: Memphis, Nashville, Great Smoky Mountains, Greeneville, and Elizabethton, the counts were made by an organized effort of local chapters of the T. O. S.; at each of the other four localities the counts were made by from one to four individuals. Ninety-seven species were recorded in all, which is almost exactly the average number recorded for the preceding six years. In the descriptions and table that follow the localities are listed from west to east, Memphis to Elizabethton. Under the heading "Information on the Counts" are described the areas, type of habitats covered, weather conditions, number of observers and parties, with miles covered and the names of the observers. The species and numbers of individuals observed at each locality are listed in the table. For additional information or comments on the records marked with an asterisk (*), see paragraph containing information on the particular locality.

The count from Reelfoot Lake arrived too late to be printed in the table, so it is included below in paragraph form.

TABLE OF 1947 CHRISTMAS BIRD COUNTS

	Memphis	Henderson	Clarksville	Nashville	Great Smoky Mountains National Park	Greeneville	Johnson City	Elizabethton
Pied-billed Grebe	3	1		1				
Double-crested Cormorant	9							
Great Blue Heron	2		1	1	1		1	
Mallard	1	2		45				
Black Duck			3	13				
Ring-necked Duck	1	2		5				
Lesser Scaup	14							1
Hooded Merganser								1
Turkey Vulture	6	38		1	15	19	7	
Black Vulture	28	6	2	*31		22		
Sharp-shinned Hawk	3						1	
Cooper's Hawk	4	1		4	2		1	2
Red-tailed Hawk	36	2	1	7	4			1
Red-shouldered Hawk	15	6	2	2		2		
Marsh Hawk	10					1		
Sparrow Hawk	47			22	2	5	5	3
Ruffed Grouse					4			
Bob-white	104		5	24		2		
Wild Turkey					6			
Coot				2				
Killdeer	91	17	1	81	22			4

1947 CHRISTMAS BIRD COUNT—Continued

	Memphis	Henderson	Clarksville	Nashville	Great Smoky Moun- tains National Park	Greeneville	Johnson City	Elizabethton
Wilson's Snipe	1			1	2			
Herring Gull	1							
Ring-billed Gull	33							
Mourning Dove	63	4	18	235	85	31	11	20
Screech Owl	2			3	1			
Great Horned Owl	1			2				
Barred Owl				1				
Belted Kingfisher	7			5	4	6	1	4
Flicker	141	12	4	46		7	6	5
Pileated Woodpecker	1	4	2	15	5	1		1
Red-bellied Woodpecker	62	9	4	45		3		1
Red-headed Woodpecker	23	6		2		6		
Yellow-bellied Sapsucker	19	5	1	18	3		1	4
Hairy Woodpecker	13	1	2	12	5	1		4
Downy Woodpecker	53	8	8	61	15	11		24
Phoebe	1		1	2	15	1	1	
Horned Lark	30		1	7	13	37	1	26
Blue Jay	390	18	6	54	10	30	18	29
Raven					7			
Common Crow	305	72	39	*908	330	10,650	42	152
Black-capped Chickadee					*			
Carolina Chickadee	195	18	5	145	*345	106	14	86
Tufted Titmouse	90	18	14	80	29	34	31	37
White-breasted Nuthatch	4	1		2	3	2	6	
Red-breasted Nuthatch					31			
Brown Creeper	22	1		11	14	1		2
Winter Wren	43		1	1	9	2		3
Bewick's Wren				2	1	1		
Carolina Wren	153	10	11	74	20	31	12	52
Mockingbird	117	5	1	92	9	29	10	14
Brown Thrasher	19							
Robin	180	7	28	125,940	160	5		1
Hermit Thrush	35	9		8	9			3
Bluebird	103	25	15	90	67	37	14	54
Golden-crowned Kinglet	132	15	4	7	79	12	1	17
Ruby-crowned Kinglet	41			1	4	2		5
American Pipit	3				75			
Cedar Waxwing	291			18		23	1	24
Migrant Shrike	41	2		4	1		1	2
Starling	6,379	30	53	501,940	85	257	100	197
Blue-headed Vireo	*1							
Myrtle Warbler	393	19	4	139	7	10		62
Palm Warbler				2		2		2
Yellow-throat								*1
English Sparrow	520	49	16	100	51	83	25	139
Meadowlark	329	42	1	107	55	65		2

1947 CHRISTMAS BIRD COUNT—Continued

	Memphis	Henderson	Clarksville	Nashville	Great Smoky Moun- tains National Park	Greeneville	Johnson City	Elizabethton
Red-winged Blackbird	554	7		4	9			
Rusty Blackbird	13		75	50		*20		
Bronzed Grackle	6,508			*1,010		6		8
Cowbird	51			850	15			
Cardinal	432	27	33	272	72	98	18	86
Purple Finch	34			3	7			6
Pine Siskin					2			3
Goldfinch	92	23	16	143	155	19		58
Red Crossbill					4			
Red-eyed Towhee	85	9	12	101	45	8		12
Savannah Sparrow	125		1		18		25	
Leconte's Sparrow	5		2					
Junco	583	62	46	213	320	60	5	69
Tree Sparrow			3					
Chipping Sparrow	5							
Field Sparrow	218	28	4	119	440	112	27	62
White-crowned Sparrow	9	2		21		89	30	26
White-throated Sparrow	1,271	28	39	205	270	68	4	86
Fox Sparrow	70	3	5	7	1			9
Swamp Sparrow	43	37	4	49	7			
Song Sparrow	344	26	24	125	190	75	12	89
Lapland Longspur	10							
Number of Species	74	45	43	66	58	46	31	48
No. of Individuals	*29,388	717	518	633,585	3,160	11,764	432	1,499

INFORMATION ON THE COUNTS

MEMPHIS, Tenn. (1946 area plus Mound City Chute, slightly more intensive coverage south; wooded bottomlands 45%, deciduous woodlots including city parks 20%, airports, pasture, and old cottonfields 15%, suburban roadsides 20%) Dec. 21; 6:35 a.m. to 4:45 p.m. Fair; muddy underfoot; calm to slight N wind in p.m.; temp. 33° to 50° to 37°. Thirty-three observers in 7 parties, and 4 individuals; the 4 main parties breaking up variously at localities worked. Total party hours, 113; total party miles, 247 (92 on foot, 155 by auto.) Mr. and Mrs. Ben B. Coffey, Jr., (compiler), Mr. and Mrs. Howard Barbig, Mrs. Floy Barefield, Edward Balton, Fred T. Carney, Mrs. Irene R. Daniel, Mary Davant, Harry Estes, Newton Hanson, Oliver F. Irwin, Victor Julia, Mr. and Mrs. Luther F. Keeton, Lawrence C. Kent, Paul Kisling, Chas. E. McPherson, Jr., Mrs. J. H. McWhorter, Jim McWhorter, Patricia Moore, Tommy Odum, Eugene Parish, Ruel Patterson, Mr. and Mrs. Albert L. Powell, Ella Ragland, Alice Smith, Demett Smith, Jr., Mrs. M. L. Torti, Maurice Torti, Brother I. Vincent, and Rose Woolridge (Memphis chapter, T. O. S.).

The Blue-headed Vireo was seen by Ben Coffey, Demett Smith, and others, and was the second winter record for this bird. In addition to the species listed, 8670 unidentified blackbirds were seen. Also an estimated 300 Canada Geese were reported seen ten miles north of the area on the Mississippi River.

REELFOOT LAKE, Tenn. (From Tiptonville around lake via Spillway and Samburg to Walnut Log, and also the timbered bottomlands on west side of lake; deciduous woodland 55%, open lake 20%, roadside 15%, farm land 10%)—Dec. 26; 5:30 a.m. to 5:30 p.m. Overcast in the forenoon, clear rest of day; temp. 30°-45°F; wind changing from S to W to N, 0-10 m.p.h.; barometer 29.95 in. Four observers in one group. Total hours, 12 (8 on foot, 2½ in rowboat, 1¼ in car); total miles, 30 (7 on foot, 3 in rowboat, 20 in car). Pied-billed Grebe, 2; Great Blue Heron, 3; Canada Goose, 6; Mallard, 10,000 (est.); Black Duck, 1; Gadwall, 70; Baldpate, 2; Green-winged Teal, 2; Blue-winged Teal, 28; Shoveller, 24; Ring-necked Duck, 120; American Golden-eye, 4; Black Vulture, 24; Red-tailed Hawk, 9; Red-shouldered Hawk, 5; Bald Eagle, 1; Marsh Hawk, 4; Bobwhite, 14; Coot, 450; Herring Gull, 3; Ring-billed Gull, 14; Great Horned Owl, 3; Barred Owl, 11; Kingfisher, 3; Flicker, 5; Pileated Woodpecker, 2; Red-bellied Woodpecker, 13; Red-headed Woodpecker, 3; Yellow-bellied Sapsucker, 7; Hairy Woodpecker, 1; Downy Woodpecker, 10; Blue Jay, 7; Crow, 270; Carolina Chickadee, 22; Tufted Titmouse, 7; Brown Creeper, 6; Winter Wren, 4; Carolina Wren, 16; Short-billed Marsh Wren, 8; Mockingbird, 11; Golden-crowned Kinglet, 8; Ruby-crowned Kinglet, 2; Loggerhead Shrike, 3; Starling, 900 (est.); English Sparrow, 108; Meadowlark, 32; Red-wing, 2,000,000 (est., tremendous continuous flocks, streaming in to roost, were observed for one-half hour at dusk); Rusty Blackbird, 95; Bronzed Grackle, 69; Cowbird, 55; Cardinal, 45; Goldfinch, 16; Red-eyed Towhee, 4; Slate-colored Junco, 39; Field Sparrow, 12; White-crowned Sparrow, 32; White-throated Sparrow, 18; Fox Sparrow, 10; Song Sparrow, 12; TOTAL, 59 species; about 2,012,650 individuals. (Seen in area Dec. 27 and 29: Double-crested Cormorant, 21; Turkey Vulture, 3; Peregrine Falcon, 1; Sparrow Hawk, 3; Killdeer, 2; Mourning Dove, 1; Screech Owl, 1; Robin, 7; Hermit Thrush, 4; Bluebird, 3; Myrtle Warbler, 12).—James L. Norman; P. W. White, Jr.; Thomas Walker, Jr.; and Lawson Hughes.

HENDERSON, Tenn. (Chester County and Chickasaw State Park) Dec. 19; 8:00 a.m. to 5:00 p.m. Temp. 28° to 60°. Fair, practically no wind. Four miles on foot and 55 by car. Four observers. Robert L. Witt (compiler).

CLARKSVILLE, Tenn. (from Gracey Avenue via Paradise Hill Road, Hiett's Garden, across Coke's Creek, Robins' Swamp, across McAdoo Creek, Tennessee Central Railway Track to Mark's Slough, and return by parallel route including fields near Indian Mounds) Dec. 23; 7:30 a.m. to 4:30 p.m. Changing from overcast with low visibility to fair and sunny about 10:00 a.m.; temp. from 40° to 50°; light north wind; stage of river very low. Three observers in one party: Alfred Clebsch, Sr., Alfred Clebsch, Jr., Edward Clebsch.

NASHVILLE, Tenn. (Environs, including Radnor Lake, Overton Hills Forest, Leawood, Hobbs to Tyne Lanes, Richland Creek, Harpeth River Valley, Warner Parks, Bellemeade, 101 pasture, Davidson Road, Hillwood, River Road, Bell's Bend of Cumberland River, Germantown, Shelby Park, and Knapp farm. Open fields 25%, dense woods 20%, wooded grasslands 30%, thickets and old fields 25%). Dec. 21; 7 a.m. to 5 p.m. Clear in a.m., overcast in p.m.; temp. 30° to 41°; light NW wind. Ground bare (no snow to date). Twenty-two observers in 8 parties. Total party-hours 54. Total party-miles, 28 by foot and 55 by car. B. H. Abernathy, H. G. Bradley, Tom Butler, Bill Crouch, Steve Fuqua, Albert F. Ganier (compiler), Eleanor Gorham, R. M. and Mrs. Hawkins, Helen Howell, Amelia R. Laskey, Barbara Longcrier, Arthur McMurray, G. R. Mayfield, J. A. Robins, Ed. Schreiber, Robert Sollmann, Curtis Sorrells, Walter R. Spofford, H. S. Vaughn, James Wade, and Geo. B. Woodring.

An estimated 125,000 Robins and 500,000 Starlings, plus 10 grackles, were present at a roost; this was located in a small valley, densely filled with deciduous trees and thickets, about seven miles northwest of Nashville. The number of Bronzed Grackles includes an estimated 1,000 seen together. Also, 30 of the Black Vultures were together, and 500 of the Crows were together. Also seen on December 20: (Herring?) Gull, 1; Marsh Hawk, 1. On December 25: Pintail Duck, 1; Bufflehead, 1.

This was the thirty-fourth consecutive Christmas census by members of the Nashville Chapter, Tennessee Ornithological Society.

GREAT SMOKY MOUNTAINS NATIONAL PARK, Tenn. (same area as in past 10 years; circle with 7½ mile radius centering on Bull Head of Mt. LeConte, including a section of the Tennessee-North Carolina divide from Collins Gap to Mt. Kephart; towns of Gatlinburg and Pigeon Forge; open farmland 25%, deciduous forest 25%, spruce forest 20%, abandoned fields 20%, town and suburbs 10%). Dec. 28; 7:15 a.m. to 8:00 p.m. Clear throughout the day; temp. 29° to 57°; wind variable, mostly easterly, strong at high altitudes in a.m., light in p.m.; ground frozen in a.m., covered with thin snow blanket in woods above 4,000 ft. Altitude range 1,200 to 6,000 ft. Twenty-six observers in 9 parties. Total party hours 73; total miles 385 (325 by car, 60 on foot). Mrs. Juanita Allen, Fred W. Behrend, Mr. and Mrs. Harvey Broome, Mary Ruth Chiles, Brockway Crouch, Edward W. Dougherty, Mr. and Mrs. Robert J. Dunbar, Thos. W. Finucane, Mr. and Mrs. Harry Henry, Lee R. Herndon, William M. Johnson, Mrs. Frank Leonhard, B. Franklin McCamey, Jr., Mr. and Mrs. Robert A. Monroe, S. A. Ogden, Myrtle M. Seno, Donald C. Snoddy, Arthur Stupka (compiler), James T. Tanner, Rowan Tague, Paul Yambert, William Yambert.

The count of Chickadees included both the Black-capped and Carolina Chickadees.

GREENEVILLE, Tenn. (circle of 7½ miles radius about town, including Reed Farm along Roaring Fork Creek, Lick Creek, Bay's Mountain at Marvin, Tusculum, Afton, Shiloh, Bird's Bridge Road to the Nolichucky River, Frank's Creek, Kingsport Road to Cross Anchor, Babb's

Mill Road; streambanks 30%, deciduous woods 25%, open fields and thickets 40%, city suburbs 5%). Dec. 26. Fair; temp. 30° to 36°; wind SSW, 20-25 m.p.h. Twelve observers in four parties. Total hours, 31; total miles, 35 (15 on foot, 20 by car). Mr. and Mrs. Willis Clemens, Bobby Doty, Jimmie Don Hankins, Mr. and Mrs. Richard Nevius (compiler), Mr. C. M. Shanks, Johnny Shanks, Dan and Allen Vinton, Mr. and Mrs. J. B. White.

The Rusty Blackbirds were observed fifteen minutes at a range of ten feet.

JOHNSON CITY, Tenn. (vicinity of Boone's Creek). Dec. 28; 8:00 a.m. to 2:00 p.m. Clear; temp. freezing; wind calm. Two observers in one party. Robert B. Lyle, Bruce P. Tyler.

ELIZABETHTON, Tenn. (Same area as in 1946, Watauga and Doe Rivers, Buffalo and Gap Creeks; stream borders 60%, woodlands 25%, open fields 15%). Dec. 21; 7:30 a.m. to 5:00 p.m. Clear, no wind; temp. 27° at start and 40° at end. Thirteen observers in 9 parties. Total hours afield 41; total miles 44 (on foot). Fred W. Behrend, J. C. Browning, Miss Mary Cook, Mrs. Hugo Doob, Mr. and Mrs. Thomas W. Finucane, Mr. and Mrs. Lee R. Herndon, Mr. and Mrs. George K. Leonard, Wm. A. Sutherland, Mr. and Mrs. Gordon E. Thomas.

The Yellow-throat was observed in good light at a distance of 12 feet by Dr. Lee R. Herndon.

THE ROUND TABLE

SUMMARY OF THIS AUTUMN'S OBSERVATIONS OF HAWK MIGRATIONS—In the September issue of *THE MIGRANT* was published a description of plans that several T. O. S. members were making to observe the migration of hawks during this autumn. The members of the Elizabethton chapter carried out their plans of regular trips to Hump Mountain, at least as well as the weather would allow. Most of their trips were interfered with by fog or storm, and on the few days that the weather was decent the wind was from the wrong direction for a good hawk flight. The most successful day was October 5th, when fourteen individuals of five species of hawks, plus two Turkey Vultures, were seen; the weather was warm with a south wind.

The members of the Greeneville chapter attempted a trip to Camp Creek Bald, but there were "fogged in."

In the Knoxville area the only discovery was a clue that might lead to finding something definite next year. In one area a few miles north-east of Knoxville were observed several more hawks than elsewhere; this area is at the end of Clinch Mountain, a ridge which stretches away to the northeast for many miles. On Nov. 16, 1947, Joseph C. Howell and I saw ten hawks, plus twenty Turkey Vultures, at this spot during two and a half hours of late afternoon. Next year, observations will be made

along Clinch Mountain to see if there might not be a flight of migrating hawks along there. We hope that next year will provide better weather for this project.

Walter R. Spofford of Nashville reported in a letter dated December 6, 1947, that Golden Eagles had already appeared in the areas on Middle Tennessee where they have been seen in previous winters. It is still, as far as I know, a complete mystery as to where these eagles come from.—JAMES T. TANNER, University of Tennessee, Knoxville, Tenn.

ANOTHER TREE-NESTING PEREGRINE FALCON RECORD FOR TENNESSEE—Several nests of the Peregrine Falcon (*Falco peregrinus*) built in the cavities of trees and located in the Mississippi River Valley were mentioned in an article appearing in an earlier issue of THE MIGRANT (Spofford 1942). A letter from Mr. Thomas Butler of Paris, Tenn., dated April 28, 1947, describes another nest found in 1940 by a student at Murray College, Kentucky. This nest was not in a cypress tree as in the several eyries previously described, but was in a cavity of a big sycamore, as were nests mentioned by Ridgeway in Illinois in the 1870's. The present nest contained three young.

The nest was visited by Mr. Butler in April, 1947, but was discovered to be now a bee-tree, and the surrounding heavily cut-over woodlands appeared to no longer harbor a pair of these spectacular falcons. Furthermore, machine-gun and bombing ranges had been established near the nest during the war, and the site at present is definitely deserted. The site is in a swamp along the Mississippi River some miles from Hale's Point, Tennessee.—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tenn.

Ref. cited: Spofford, W. R. 1942. MIGRANT, 13: 29-31.

FRANKLIN'S GULL AT MEMPHIS—Prior to the summer of 1939, the several city sewers emptied separately into the Wolf River and, below its mouth, into the Mississippi River. Wintering gulls were often seen in front of town and the favored spot was opposite the end of Talbot Street, where the birds could be seen while one was driving along Riverside Drive. Subsequently, most sewers were connected together and extended south to Georgia street. Here, from the top of the bluff, is a good location to see gulls. On my first visit of this season, a brief stop on November 19, 1947, I observed three gulls: an adult Franklin's Gull, another Franklin's in first winter plumage, and a Ring-billed Gull in second winter plumage. A size comparison with the latter and several looks at the wing pattern confirmed my identification of the Franklin's Gulls. Both birds were in normal plumage for their phase except that on the adult the white across the wings separating the black tips from the grey mantle, was not as conspicuous or as wide as shown in Peterson's guide. The next morning Mrs. Coffey and I returned with binoculars and examined them more closely. Three immature Ring-billeds were then present. On the afternoon of November 27, several local members found the adult Franklin's Gull to be the only gull present there. It was still present Dec.

3 and may have remained longer, but I did not visit this point again until Dec. 20, at which date it was not seen.

In previous years this species has been reported at St. Louis and in Lake Erie, Nov. 18-21. The only other record I know of for the Memphis area is for Hughes, Arkansas (30 miles SW of Memphis), Nov. 2, 1932, when a flock of 50 to 60 gulls were reported following a plow on the Newhope Plantation. One was wounded, then brought to the Memphis Zoo where it soon died. Through the courtesy of Mr. J. E. Jolly, Earl Henry mounted the bird and subsequently its identity as a Franklin's Gull was verified by Dr. H. C. Oberholser. The present record of this prairie species is the first for Tennessee within the knowledge of Mr. Albert F. Ganier and the writer. Mrs. Coffey and I have seen the two similar gulls—the Laughing and the Bonaparte's—in several areas at various seasons. While at Fort Sill, Oklahoma, we had the opportunity of seeing thousands of Franklin's Gulls in migration.—BEN B. COFFEY, Jr., 672 N. Belvedere, Memphis.

BIRDS FEEDING ON TERMITES—About noon on May 1, 1947, I noticed that termites were emerging from a cavity at the base of a very large silver maple tree, a few feet from the windows of our home. On the jutting base of one side of the tree, a large mass of the winged insects had settled on the bark, some had dropped to the lawn, and others were flying about. I poured a kettle of hot water over the mass on the tree and returned indoors. Immediately a Redstart in female plumage arrived, caught several of the flying termites and some from the blades of grass. In a moment it was joined by a Palm Warbler, which also caught some on the wing and in the grass. As a Yellow-breasted Chat arrived, the Warblers flew. The Chat ate some of the scalded termites but several times entered the rather dark cavity under the tree to get the living termites as they crawled toward the light. Next came a male Cardinal and the Chat left. The Cardinal, balancing on the sloping tree base, rapidly picked up the dead termites. He was soon joined by his mate. She apparently was not hungry, for in a desultory fashion she ate only a few, but when the male offered her some on two occasions she accepted them from him and swallowed them. He continued to eat for some minutes as she hopped about the lawn. A Wood Thrush arrived and ate with them.

No further observations were made during the afternoon, but about dusk the Chat was feeding there again, going in and out of the cavity. It reappeared the following day hunting a meal, but by that time the termite exodus had ceased.—AMELIA R. LASKEY, Graybar Lane, Nashville, Tennessee.

THE SEASON AT MEMPHIS—This opportunity is taken to review the year to date. The local chapter scheduled a trip to Moon Lake, Mississippi, on Feb. 16 and listed, among other waterfowl, 900 Ruddy Ducks. Enroute a Western Meadowlark was heard singing and was seen at the same area as previously reported, 6½ miles south of Tunica, Mississippi.

On the March trip to Overton Park on the 30th: 3 House Wrens (early and uncommon), 6 Yellow-throated Vireos, and, passing over, 3 Upland Plovers. Records of the Golden-winged Warbler have never been common for me, but this spring I listed it in Overton Park: April 12, 1; April 19, 1; April 30, 2; May 3, 1. A Cape May Warbler was seen there May 3. Oven-birds were common in the park: April 22, 1; April 30 to May 6, up to 15 being seen or heard singing each day, with others probably unnoticed in the ground cover of poison ivy there. A Philadelphia Vireo was seen April 20 and another was reported for the Spring Field Day, May 4. The first Least Terns (11) were seen May 22 (late) and with them on and near the foot of Mud Island were 50 Black Terns. On Aug. 15 a flock of 30 of the latter were seen flying low over the river and southward. The Least Terns were probably at Redmond Bar, their usual nesting site, before the above date, as Merrill Schwartz reported young and nests with eggs in late June.

Ten Upland Plover were seen at the Municipal Airport July 16 and again on Aug. 20. The first wandering herons, evidently from distant heronries, were noted on June 19 and were seen for several weeks in small numbers on Mud Island and along the Wolf River levee. Because of the second and late rise of the Mississippi, which left trapped water in Mud Lake, the shoreline of the latter did not retreat down the levee and thru the border of trees until about Aug. 24. On that date were counted: American Egret, 173; Great Blue Heron, 24; Little Blue Heron, adults 3, immature 22. On Sept. 1: American Egret, 127; Great Blue Heron, 1; Little Blue Heron, adult 148 (unusual), immature 26; Snowy Egret, 3; and Blue-winged Teal, 22.

On Sept. 14 the chapter visited Mud Lake again and waded around it, recording, among others: American Egret, 150; Little Blue Heron, 25 adults, 15 immatures; Blue-winged Teal, 60; Semipalmated Plover, 4; Killdeer, 90; Lesser Yellowlegs, 80; Pectoral Sandpiper, 120; Least Sandpiper, 25; and Least Tern, 20. As we were leaving, a beautiful adult Bald Eagle came into view. Several hundred Swallows were seen, mostly Rough-wingeds and Trees, with 10 Banks, 1 Barn, and 1 Cliff. Most of the party continued to Flower Lake, near Tunica, Mississippi, where 60 Wood Ibis were seen. On Oct. 12 our party found Mud Lake practically dry. Along the levee the swallows were practically all Tree Swallows, the total of estimates being 825; a Cliff and 5 Rough-wingeds were among them. We tried Mound City Chute, across the river, and met fair success with an adult Bald Eagle as the high point. While banding Chimney Swifts on Central High, Sept. 28, we saw 6 Broad-winged Hawks moving southward. Five Swifts on Oct. 25 were the last noted.

We were honored on our Fall Field Trip to Shelby Forest, Oct. 26, by the presence of Mr. Albert F. Ganier of Nashville. A flock of 15 Blue Geese contained one (Lesser) Snow Goose. A stop at Field 21, a Navy auxiliary airfield, netted over a hundred Savannah Sparrows, 40 American Pipits, 2 Prairie Horned Larks, 2 Marsh Hawks, and Killdeer and Meadowlarks.—BEN B. COFFEY, Jr., Memphis, Tenn.

THE MIGRANT

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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

EDITORIAL

When the United States Biological Survey began to obtain information about the distribution and migration of North American birds, it called upon amateur bird observers over the country to make and record observations of birds and to send their records in to the Survey. That system of collecting information worked; the amateurs formed an army of volunteer observers that amassed a tremendous amount of data on the ranges of birds and their migrations. The system is still in effect, with changes made possible by the growth of bird study thruout the country. One of the present methods of collecting information used by the Fish and Wildlife Service (as the Biological Survey has since been renamed) is for workers to read the pages of journals and bulletins like THE MIGRANT and to clip from them articles and notes written by people like the members of the T. O. S.; these clippings are then filed so that the information in them will be easily available. In these ways countless bird students have furthered the science of ornithology.

And the task is not yet done. At the meeting of the American Ornithologists' Union held a year ago last fall, there were more scientific papers presented on one subject than on any other; these papers discussed the factors and conditions that affect the distribution of birds, or why birds live where they do and not somewhere else. Why were there so many speakers on this subject? Because there is still not enough known about birds to explain the geographical limits of a bird's range or its choice of habitat. Many hypotheses have been suggested, and these hypotheses and related unsolved problems stimulated the speakers to present their papers. Before a solution is found, many more observations and records are needed—accurate observations with records of the abundance of birds and the kinds of habitat where they are found. The amateur with his field glasses and notebook can do this; he still is and probably always will be a valuable worker in the field of ornithology.

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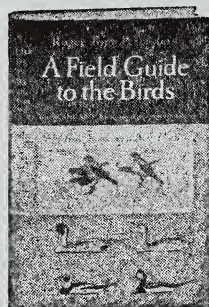
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Number 1

WATER FOWL IN EAST TENNESSEE

By ROBERT J. DUNBAR

East Tennessee lies midway between the Mississippi and Atlantic flyways and is located on a cross route between the two. According to Francis H. Kortright in his book, "The Ducks, Geese and Swans of North America," this tributary route across East Tennessee is really a branch of the Mississippi flyway, that apparently leaves the parent stream in the general vicinity of St. Louis, Missouri, and joins the Atlantic flyway on the coast of South Carolina. A glance at the map of the United States will show that a point about halfway between Knoxville and Chattanooga, Tennessee, not only is on a direct line between St. Louis, Missouri, and Charleston, South Carolina, but is also about halfway between the two terminal points of the tributary flyway.

As reported by A. K. Thurmond in the March-April 1948 issue of "The Tennessee Conservationist," migratory water fowl once followed the Tennessee River in their cross movements from the Mississippi to the Atlantic flyways, for some reason this diversion in flight disappeared a good many years ago. He further explained that since the development of the Tennessee River began in 1933, conditions for water fowl in the Tennessee Valley have been improved to a considerable degree by the establishment of wildlife refuges on 115,000 acres of reservoir lands and waters.

It was a fortunate coincidence that Albert F. Ganier published "A Distributional List of the Birds of Tennessee" in 1933, the same year that the development of the Tennessee River began. This gives us a yardstick to measure the effect of the more favorable conditions, brought about by the construction of the T. V. A. reservoirs and the establishment of refuges, upon the migrating water birds and the number of individuals that winter in this section of the State.

During the fall and winter of 1947-48 the writer made weekly visits to Cove Lake at Caryville, Tennessee, which is located about 15 miles north of Clinton, Tennessee, on U. S. Route 25. Cove Lake is in a park area where hunting is prohibited. The main arm of the lake is approximately one half mile long by one third mile wide, and its water level is kept constant by a low level dam. The shore line is quite irregular, ranging from steep hillsides to low marshy ground. Excellent feeding areas for pond and river ducks extend into the grassy and marshy indentures along the north and west shores.

Because of the irregularity of the shore line, it was necessary to make the observations from at least three vantage points on the east and south

APR 26 1948

shores. While the 7x35 binoculars with coated lenses gave excellent results at the shorter distances and of birds in flight, they were inadequate for the longer distances. Here a 50 mm. prismatic telescope, with interchangeable eye pieces of 12.5, 19.5, 26 and 36 power, mounted on a tripod proved in-

Table 1

Cove Lake at Caryville, Tennessee

All observations made between 12 noon and 5:00 P. M. (about 1 hour duration)

1947

1948

Date—Temperature	Dec. 7—40°	Dec. 14—44°	Dec. 30	Jan. 4—33°	Jan. 11—42°	Jan. 17*—24°	Jan. 24†—20°	Jan. 30‡—30°	Feb. 6§—38°	Feb. 15—45°	Feb. 22—33°	Feb. 29—60°
Horned Grebe	..	2	..	..	..	..	..	..	..	..	..	..
Pied-billed Grebe	4	4	9	4	4	2	..	..	..	2	..	2
Great Blue Heron	..	..	..	..	..	..	..	..	1	..	..	..
Canada Goose	1	1	..	..	..	..	..	..	..	..	..	10
Mallard	10	5	70	..	23	30	5	..	24	50	8	..
Black Duck	12	9	50	8	30	25	12	..	70	75	15	50
Gadwall	15	20	50	55	36	18	60	..	90	85	80	70
Baldpate	6	..	40	..	2	2	50	..	..	..	..	..
Pintail	4	6	20	2	20	2	2	..	11	8	..	..
Green-winged Teal	11	10	25	6	13	..	..	..	12	6	..	..
Redhead	..	..	1	..	..	..	..	..	..	12	..	..
Ring-necked Duck	..	..	..	..	..	..	..	..	..	..	..	6
Canvas-back	..	..	..	..	11	..	..	..	..	..	..	..
Lesser Scaup Duck	..	..	..	..	..	..	..	..	2	..	..	..
American Golden-eye	..	..	..	..	..	2	..	..	..	..	..	..
Buffle-head	..	..	2	..	..	..	..	..	..	..	..	..
Hooded Merganser	2	2	5	..	..	..	..	1	..	..	..	..
American Merganser	5	..	..	..	..	2	..	..	8	9	12	..
Red-breasted Merganser	..	3	..	..	..	..	..	..	..	4	..	..
Coot	60	70	30	18	12	8	9	..	..	..	..	8
Herring Gull	..	..	..	1	..	..	..	1	..	1	..	..
Number of Species	11	11	11	7	9	7	8	..	7	9	7	7
Number of Individuals	130	132	302	94	151	87	142	..	209	237	129	158

* 80% of Lake Surface Frozen Over

† 85% of Lake Surface Frozen Over

‡ 100% of Lake Surface Frozen Over

§ 75% of Lake Surface Frozen Over

dispensable. With such a telescope and good light, the color patterns and other identifying characteristics could be clearly seen at any point visible within the limits of the opposite shore.

While the number of water birds observed was not so impressive, the

number of species was. With the exception of January 30, when Cove Lake was completely frozen over, the minimum number of species observed in any one day was seven and the maximum eleven. During the three months' observation period (December through February) twenty-one species of water birds (not to mention the Kingfisher) were recorded. Species such as the Pied-billed Grebe, Black Duck, Gadwall, Baldpate, Pintail, Green-winged Teal and Coot, reported by Ganier in 1933 to be either rare transients or rare winter residents in East Tennessee, were observed on almost every trip as indicated on Tables 1 and 2. The Hooded and American Mergansers, although not so frequently observed, were by no means rare. We may con-

Table 2
Small Pond or Lake on Oak Ridge Area, Tennessee
1948

Date—Temperature	Jan. 3—35°	Jan. 11—40°	Jan. 17*—26°	Jan. 24*—21°	Jan. 30*—32°	Feb. 6†—40°	Feb. 15—50°
Pied-billed Grebe	5	5	..	..	..	2	..
Great Blue Heron	1	1	..	..	..	..	2
Mallard	..	2	..	..	..	2	25
Black Duck	..	2	..	..	..	6	20
Pintail	..	..	..	..	..	..	5
Green-winged Teal	..	..	..	..	..	..	7
Hooded Merganser	3	12	..	..	..	5	..
American Merganser	..	..	..	..	..	..	6
Coot	8	15	..	..	..	12	5
Ring-billed Gull	1	..	..	..	..	..	..
Number of Species	5	6	..	..	..	5	7
Number of Individuals	18	37	..	..	..	27	70

* 100% of Lake Surface Frozen Over

† 50% of Lake Surface Frozen Over

sider most of the above-mentioned species to be fairly common if we recognize the fact that the water fowl population in the United States has reached a new low in the declining cycle and that the numbers of individuals indicated in the accompanying Tables 1 and 2 are for a small lake and pond. On the other hand, the diving ducks may be considered rare visitors, at least on the smaller lakes.

Does the Great Blue Heron winter in East Tennessee? In 1933, it was considered rare at any season of the year. This year, in addition to the records shown on Charts 1 and 2, several members of the Knoxville Chap-

ter of the T. O. S. have observed the Great Blue Heron during both the summer and winter months.

A study of Tables 1 and 2 will disclose the fact that the partial freezing over of the lake or pond surface had little or no effect upon the number of water birds present. It is noteworthy that as soon as open water reappeared after the freeze-up, the water birds returned. Presumably they took up temporary residence on the open water of the near-by rivers or larger reservoirs during the time the smaller lakes were frozen over.

There can be little doubt that there are more species of water birds now wintering in East Tennessee than there were a decade or two ago. The number of water birds wintering here may be expected to increase if the U. S. Fish and Wild Life Service, the State Conservation Department and the T. V. A. continue to work together in the development of wildlife refuges and more favorable food supplies.

106 GLENDALE LANE, OAK RIDGE, TENN.

JULY FOURTH NOTES FROM NATURAL BRIDGE, TENNESSEE

By BEN B. COFFEY, Jr.

For many years we have wanted to stray across the Tennessee River and make a list of the birds found in early summer at Natural Bridge, one of the more interesting and picturesque spots in Middle Tennessee. The opportunity did not present itself until the Independence Day holidays this year. Early June would have been preferable because at the later date we found bird activity somewhat reduced. For that reason we covered, in addition, some of the highways and back roads of north-east Wayne County. Our party spent from the late afternoon of July 4 to noon on July 6 in the area and consisted of Mrs. Coffey, Mrs. Floy Barefield, Robert Tucker, Demett Smith and the writer. On the afternoon of the 5th we were joined by Mr. and Mrs. Albert F. Ganier who drove down from Nashville.

Most of the field work was at points along the Buffalo River and en route thereto from Natural Bridge. Many areas along this small river and along Forty-Eight Creek which passes by Natural Bridge northward to join the Buffalo, were fully cultivated, but the higher ridges were covered with an oak-hickory climax forest. Wayne County is reported to be ninety percent wooded and other portions seem to support this statement. Along state highway No. 13 small scattered remnants of pine were noted among the oak and hickory but the time of day when our stops were made was not suitable for determining if this pine favored the presence of certain species.

Sixty species were recorded in the Natural Bridge-Buffalo River area and the statements below apply to that area with exceptions as noted. The more common species were the Wood Thrush, Red-eyed Vireo, Summer Tanager, Cardinal, Indigo Bunting, and Chipping Sparrow. The list ap-

pears typical for the limited environment. We were disappointed in not finding certain species, uncommon and absent from parts of West Tennessee, such as the Scarlet Tanager, Blue-winged Warbler, and Yellow Warbler. The scarcity of Prairie Warblers and Towhees was notable.

The waterbirds and birds of prey were uncommon. Around Court House Hollow lake, a small artificial pond just above the Natural Bridge, two immature Green Herons and a female Wood Duck were seen. Turkey Vultures were infrequent—up to six recorded at one time—and only two Black Vultures were seen, one being over Highway 13. A Cooper's Hawk was noted north of the Buffalo and another enroute south to Waynesboro. Along the river near Squeeze-Up Bluff a Red-tailed Hawk screamed at us intermittently and a second one for the county soared east of the highway 64-114 intersection. On the Fourth, a Broad-winged Hawk was seen just before we entered Wayne County. No owls were recorded.

Bob-white—Heard at four places.

Mourning Dove—Seen twice here; several west of Waynesboro.

Yellow-billed Cuckoo—Fairly common.

Chuck-will's-widow—Undoubtedly many did not call this late in the season. From our cabin the first night I heard one call from 7:30 to 7:35 p.m. On my awakening about 3 a.m., it or another individual called for a few minutes. From the high point of Zion Cemetery only one was heard in the surrounding countryside on the evening of the 5th.

Whip-poor-will—About midnight on the 4th I awoke to hear one call about five minutes. The next noon en route back to our cabin we found a dead male in the gravel road along a high ridge (elevation about 940 feet) and about two miles south of Natural Bridge. At dusk on the 5th Mrs. Coffey with Albert F. Ganier heard five or more calling at this point. No Chuck's were heard along the road there.

Chimney Swift—Uncommon.

Ruby-throated Hummingbird—Two were seen July 4.

Flicker—One at Squeeze-Up Bluff, July 5.

Pileated Woodpecker—Uncommon. On the 5th two near Rasbury and a family group at Salem Church. One above the Bridge on the 6th.

Red-bellied Woodpecker—Uncommon.

Red-headed Woodpecker—One at Ashland Ford, July 5th.

Downy Woodpecker—One at the Bridge on the 6th.

Kingbird—Occasional.

Crested Flycatcher—One on the 4th en route to Squeeze-Up, and one in the cabin area, July 5.

Phoebe—Fairly common. We generally found Phoebes and nests under each concrete bridge on Highway 64 from the Tennessee River to Waynesboro, but none at the latter place. Apparently two pairs were present in the resort area. A pair was seen on the river near Squeeze-Up and a nest noted on a river ledge near Salem Church. A nest on road beams of the Highway 13 bridge over the Buffalo differed from most nests in its height above the ground (30 feet) and in that it was on an all-steel bridge.

Acadian Flycatcher—Common at the Bridge and along the streams.

Wood Pewee—Common; less so in Acadian environment but more widely distributed.

Purple Martin—Uncommon—at three locations and a fourth on Highway 13.

Blue Jay—Fairly common, Squeeze-Up Bluff and upstream; no other records.

Crow—Common.

Carolina Chickadee—Common.

Tufted Titmouse—Fairly common; in numbers at Squeeze-Up.

White-breasted Nuthatch—Two noted at Squeeze-Up Bluff, July 5.

Bewick's Wren—Three heard singing near Ashland, July 4 and 5. Also heard from the tower, junction of highways 13 and 48, on July 5.

Carolina Wren—Common.

Mockingbird—Along roads but uncommon.

Catbird—Common along the streams.

Robin—Two upstream from Squeeze-Up, July 5.

Wood Thrush—One of the more common species, altho not in evidence in mid-day.

Bluebird—Common.

Blue-gray Gnatcatcher—Fairly common, Natural Bridge and Buffalo River.

White-eyed Vireo—Almost common.

Yellow-throated Vireo—Almost common.

Red-eyed Vireo—One of the more common species.

Black and White Warbler—Common at the two bluffs and one noted at Natural Bridge.

Prothonotary Warbler—One recorded along Highway 64 (west), July 4, two near Squeeze-Up and one at Ashland Ford on July 5.

Parula Warbler—Recorded at Natural Bridge and the two bluffs.

Cerulean Warbler—Fairly common at the above three places.

Sycamore (Yellow-throated) Warbler—Fairly common along the two streams.

Prairie Warbler—None were recorded in the Natural Bridge and Buffalo River area. Frequent stops were made July 5 along highways No. 48 (mostly north of Wayne County on a high ridge) and No. 13. Only one singer was heard, on No. 48 in Wayne County. This wooded rolling country seemed to be typical Prairie Warbler environment; the time of day (11 A.M. to noon) might have been responsible for the paucity of records. One was heard July 4 west of Waynesboro.

Louisiana Water-thrush—Fairly common in the vicinity of Buffalo River while several were at home along the ledges under the Natural Bridge.

Kentucky Warbler—Uncommonly recorded and only at Buffalo River.

(Maryland) Yellow-throat—Fairly common but not recorded at Natural Bridge itself.

Yellow-breasted Chat—Almost common; no record at Squeeze-Up.

Hooded Warbler—Fairly common, Natural Bridge and Buffalo River.

Redstart—Six were recorded July 6 at Grinder Bluff and one at Salem Church the day previous.

English Sparrow—Locally in relatively small numbers.

Meadowlark—Two seen early July 5 enroute to Squeeze-Up.

Red-wing—None here; one seen west of Waynesboro on the 4th.

Orchard Oriole—Five scattered records.

Summer Tanager—One of the more common species.

Cardinal—Very common in the Bridge-River area.

Indigo Bunting—Very common and well distributed but none in cabin area.

Goldfinch—Three casual records; Squeeze-Up, Salem Church and enroute thereto.

Towhee—Two west and one east of Waynesboro and four records there.

Chipping Sparrow—One of the more common species.

Field Sparrow—Common in the more cultivated and open areas.

672 N. BELVEDERE, MEMPHIS 7, TENNESSEE.

CONDITION OF BIRDS FOLLOWING A PROTRACTED SNOW

By ALBERT F. GANIER

A number of species of birds are found wintering commonly in Tennessee that are not so found in the northern states. Presumably this is because snow in the latter area keeps the ground covered for long periods of time and thus curtails the food supply. Among such birds are the White-throated and White-crowned Sparrows, Towhee, and Bluebird.

An unusually long period of snow, together with abnormally low temperatures, prevailed in Tennessee during the last half of January, 1948, and so resembled typical conditions in northern states that it was feared the above species and perhaps others had met disaster. The first snow during this period fell on January 16 and measured from seven and one-half to nine inches. Below freezing temperatures prevented its melting; the minimum temperatures during the next four days were 19°, 5°, -1°, and 0° F.

On January 21, the thermometer rose to a few degrees above freezing and some bare spots of ground began to show. That night however an additional two inch snowfall occurred, followed by eight more inches on successive days. Temperatures remained below freezing during the balance of the month, including minimums of -1°, -2° and 3° F. By January 31, the snow had been glazed over by a light fall of sleet and upon this an additional inch of snow fell. The average of minimum temperatures for the last nineteen days of the month was 12.6° F.

Appeals to feed the birds were made in the newspapers and on the radio, with the result that thousands of homes inaugurated well patronized feeding shelves and stations under the impression that only by such action could birds be kept from starving. At my own shelves, the voracious local

throng was augmented by several newcomers, presumably from further out in the country.

On Sunday, February 1, I decided to spend the day afield to investigate the numbers, activities and physical condition of birds, as these might have been affected by the sixteen day snow period and abnormal cold. From experience gained as a result of much winter field work, I felt I should be able to make comparisons. During the day, I leisurely covered about three miles, wading thru crusted snow averaging six inches deep. Five specimens were collected and these were weighed, the bodies inspected for possible emaciation and the stomachs removed for examination of food content. Briefly, it may be stated that no dead birds were found, no birds were observed too feeble to fly, for the most part their actions were normal and no undue scarcity was apparent. Traversing wooded pasture lands and along the Little Harpeth river, much time was given to observing what the birds were found to be eating, and for this reason the five hour list comprised only twenty-two species. This list is given below together with remarks on certain species that may be of interest.

Black Vulture, 2 (evidence that they do not move southward during such weather, as they could easily do); Red-tailed Hawk, 2 (a pair, one "chasing" the other repeatedly); Killdeer, 2 (feeding in running water of brooks where they would wade in the shallow water and frequently pluck food items from the stream-bed); Yellow-bellied Sapsucker, 2; Downy Woodpecker, 1; Pileated Woodpecker, 2; Blue Jay, 1 (near stock barn); Common Crow, 1 (plus 100 at 3 p.m., flying eastward to some roost); Carolina Chickadee, 7; Tufted Titmouse, 4; no wrens were seen or heard; Mockingbird, 2; Robin, hundreds, including small flocks and singles (they were either eating the abundant hackberries or drinking at stream edges; their actions appeared normal and a male collected was a bit thin but not emaciated); Bluebird, (a male collected was thin); Cedar Waxwing, 100 (several flocks, partaking of hackberries or drinking and bathing at brook-sides); Myrtle Warbler, 2; Starling, hundreds (in flocks and scattered; eating hackberries, about barns and at brooksides); Rusty Blackbird 2; Cardinal, 6 (4 eating hackberries and 2 eating ash seeds); Purple Finch, 1 (a female, eating buck-bush berries (*Symphoricarpos*), as I have seen them do on previous occasions); Goldfinch, 1 (among weeds); Red-eyed Towhee, 1 (a female, in a hog shelter); Junco, 15 (pecking about on surface of snow, at bare spots on ground, and in wheel-worn roadways. A male collected was in normal condition); Field Sparrow, 30 (three small flocks were feeding on seed of broom-sedge, the stalks of which protruded thru the snow; one collected was thin but not emaciated); White-throated Sparrow, 7 or more (feeding on the ground in the few small spots that had become bare during the day. They appeared ravenous and were loathe to fly. Others fed along stream edges with Song Sparrows. A specimen collected was thin, as had been expected, but was not seriously emaciated); Song Sparrow, 5 or more (see note on preceding).

The specimens were purposely collected in an area removed at least half a mile from human habitation, so as not to reflect a possible source of

artificial food supply. All were males except the Junco. As mentioned above, the Robin and Junco were in about normal seasonal condition, the Bluebird and the Field Sparrow were a bit thin and the White-throat appreciably so, enough in fact to cause perceptible weakening. (Following a similar period of snow in Jan. 1940, one of the last mentioned species was found almost too weak to fly). The weights of the above specimens were: Robin, 78.6 grams; Junco, 20.5 grams; Bluebird, 32.0 grams; Field Sparrow, 13.0 grams; White-throated Sparrow, 26.5 grams. For comparison, Mrs. Amelia R. Laskey has kindly furnished January and early February weights, taken at her Nashville banding station, for the following species: Junco (17), average 22.1 grams; Field Sparrow (34), ave. 14.9 gms.; and White-throated Sparrow (11), ave. 31.0 gms. From these (unsexed) averages, my corresponding specimens showed 7.2%, 12.7% and 14.5% deficiencies in weight.

In conclusion, it may be said that the visual observations made and the specimens collected did not support the popular belief that such spells of weather are disastrous to bird life. It should be mentioned however that the hackberry trees, which are our most abundant trees locally, were well laden with berries, and they provided a food upon which nearly all birds can subsist.

2112 WOODLAWN DRIVE, NASHVILLE, TENN.

NESTING OF EASTERN BLUEBIRDS IN ABNORMAL SPRING WEATHER

By AMELIA R. LASKEY

The unusually cold weather, numerous snowstorms, and scarcity of food in February and March 1947 adversely affected the nesting season of Eastern Bluebirds (*Sialia sialis*) in the Warner Parks nest-box project at Nashville. Egg laying started later than normal, fewer eggs were laid than usual, and four emaciated Bluebirds were found dead in boxes in March.

I have comparable data for ten nesting seasons of this Bluebird population from 1938 through 1947. Three years—1938, 1940 and 1947—are considered abnormal from the standpoint of weather conditions during the first three months of the calendar year. 1938 had an extremely mild winter and early spring which by March had advanced vegetation to three weeks beyond normal for that time of the year. The winter of 1940 will be remembered for low temperatures and deep snows of January and February and cold March days which retarded spring growth considerably, and throughout the South, took toll of bird life. In 1947, February and March were unusually cold; February had thirteen days when snow fell in Nashville, totalling 13.3 inches for the month; March had eleven days of snowfall, with a total of 5.9 inches, and a killing frost on the 31st. (from U. S. Monthly Meteorological Summary).

During the seven intervening years conditions were nearer normal, although mean temperatures for March varied from the normal mean of 49.2 for Nashville by several degrees above or below normal. In these "Normal"

years, the first Bluebird eggs of the season were laid from March 10 (in 1942) to March 18 (in 1939 and 1943), with March 15 as the average date for first eggs in the seven years (1939, 1941, 1942, 1943, 1944, 1945, 1946). But in 1947, the first egg was not laid until March 30, and in 1940 on April 2.

Comparing the number of eggs produced for an entire season, 1947 shows a marked decrease. The average number of eggs laid per available nest box during the seven years ranged from 9.6 for 55 boxes in 1946 to 12.3 per box for 63 boxes in 1942, an average of 10.8 eggs per available box annually for the seven years. In 1947, the 54 available boxes averaged only 7 eggs per box for the season. The laying not only started later but there were fewer clutches laid; the 84 sets laid in 1947 constitutes a decrease of 31 per cent from the previous year.

Egg production in 1940 also dropped below the preceding and following years. In 1940, the average was 9.7 eggs per box for the season; in 1939, the average was 10.3 and in 1941, it was 11.1 per available box.

At the other extreme is the season of 1938, with a mild winter and early spring of few fluctuations in temperature, when the nest-building urge among Bluebirds was strong in February. I found a set of four eggs being incubated on March 5. That year, with 37 nest boxes available, egg-laying for the season reached a high peak with an average of 12.4 eggs per box for the season.

It is not known how many adults perished in 1947, but when making the first inspection of nest boxes for the season on March 11 and 12, I found three emaciated adults dead in boxes, and another on March 30, making a total of three females and one male. Only two had been found in previous years (February 1939 and 1943); the 1939 dead male apparently was not the victim of cold or starvation.

In 1940, after deep snows that lasted in one instance for a week, I found no dead Bluebirds, although droppings and regurgitated hackberry seeds on the floors of the boxes indicated they had been used for shelter. Two plausible reasons may be suggested for the finding of dead Bluebirds in 1947 and none in 1949. In the winter of 1946-47, there were no hackberries on the trees, due to the failure of the crop in the growing season. This fruit, although composed principally of a relatively large indigestible seed, with a thin, dry, sweet hull, is an important winter-food item for many birds, including Bluebirds, when the ground is covered with snow and sustenance must be gleaned elsewhere. In 1940 some food, including hackberries, was available.

During the January and February periods of deep snow in 1940, the territorial phase of the nesting cycle had not progressed to the high point that it would have reached by March when nest-building and egg-laying are normally in progress. In 1947, the snowstorms came late with eleven days of snowfall scattered through March when the Bluebirds doubtless had already, in many instances, selected nest sites and territories, and had become attached to them. Therefore it would have been more natural for Bluebirds to wander farther in January in an emergency search for food

than in March when the behavior pattern would be different. Territorial ties would doubtless inhibit, to some extent, wandering in March to other locations where food might be available.

Factors other than the average (mean) temperatures for early spring are involved in the start and volume of egg production but weather does have considerable influence. Abnormal weather conditions undoubtedly have definite effects.

GRAYBAR LANE, NASHVILLE 4, TENNESSEE.

THE ROUND TABLE

NESTING DATA FROM MEMPHIS—In the spring of 1947 the members of the Memphis Chapter decided to keep notes on all nests observed in the city and nearby surrounding area. Only casual records were kept, and they do not give a clear picture of common summer residents as no special search was made to compile large lists of nests or of species. 139 nests were noted, representing 27 species. These were: Robin, 39; Brown Thrasher, 15; Cardinal, 13; Mourning Dove, 10; Mockingbird, 9; Starling 5; Red-headed Woodpecker, 4; Flicker, 4; Blue Jay, 3; Carolina Wren, 3; Wood Thrush, 3; Bronzed Grackle, 3; Sparrow Hawk, 2; Shrike, 2; Red-wing, 2 (both nests found in privet hedge alongside lake in Chickasaw Gardens); Cooper's Hawk, 1; Bob-white, 1; Killdeer, 1 (old Vollenstone golf course); Nighthawk, 1 (on roof of Power and Light sub-station. 1 adult and 1 young banded); Crested Flycatcher, 1; Rough-winged Swallow, 1 (bank along Wolf River just north of city limits); Bewick's Wren, 1; Catbird, 1; White-eyed Vireo, 1; Warbling Vireo, 1; Meadowlark, 1; Summer Tanager, 1.

Of the 39 Robin nests, 17 were in Elm trees, 8 were in various species of oak and 3 in evergreens. The lowest Robin nest was eight feet from the ground and the highest forty, with an average of about nineteen feet.

The Cardinal had the highest percentage of tragedies. Of course, due to location, many nests could not be closely watched to see if the young left the nest without mishap, but out of the 13 Cardinal nests, 3 were known to be destroyed or deserted. Only one Thrasher nest out of 15 was destroyed and none of the 9 Mockingbirds met with loss. These three species, all nesting in low shrubbery, were more closely observed throughout the nesting period. One Thrasher nest was observed daily from May 1 until May 10 when the young left the nest. On May 12 a new egg was laid. The nest was full of mites at this time. On May 15 the egg was gone and the nest deserted.

It was interesting to note that only one Catbird nest was recorded, while the Catbird is one of our common summer birds in town. This particular nest was well concealed in a cane thicket at "Coffey Grounds" and almost passed unnoticed.

The Dove, always a careless nest builder, in one case chose an excellent foundation for his home. It was placed on top of an old Wood Thrush nest!

Two young doves were seen in their two story home on July 28. The latest nesting record was that of a Dove. A young bird, barely able to fly, was caught by hand, banded and released on September 5.—LULA C. COFFEY, 672 North Belvedere Blvd., Memphis, Tenn.

EDITOR'S NOTE—The Memphis Chapter encouraged the collecting of nesting data by all their members by the preparation of mimeographed blanks for recording information and distributing these blanks to the members. Each blank contained spaces for recording the following information about one nest, a blank to be filled out for each nest found: species of bird, date nest first observed, locality, kind of tree or shrub, location of nest in tree or shrub, number of eggs or young, and the name of the observer. All subsequent observations on that nest or any special comments or descriptions were written on the reverse side of the blank. Examples of the blank form may be obtained from Mrs. Coffey at the address given above.—J.T.T.

SOME ADDITIONAL NOTES ON THE BIRDS OF PICKETT FOREST, TENN.—In THE MIGRANT for June 1937, Mr. Albert F. Ganier published an article on the birds found during a week's stay at Pickett Forest by a group of the Tennessee Ornithological Society. Pickett Forest is at the northern part of the Cumberland Plateau in Tennessee, in Pickett County. During the first week in June in 1946 I spent most of my spare time watching birds in this area, and it is of interest to compare the list of birds with that published by Mr. Ganier.

In my trip, I failed to find the following forms mentioned in the 1937 list: Black-crowned Night Heron, Cooper's Hawk, Ruffed Grouse, Wild Turkey, American Woodcock, Yellow-billed Cuckoo, Great Horned Owl, Night-hawk, Ruby-throated Hummingbird, Belted Kingfisher, Red-bellied Woodpecker, Red-headed Woodpecker, Red-cockaded Woodpecker (see comments below), Tufted Titmouse, Bewick's Wren, Blue-gray Gnatcatcher, Bluebird, Yellow-throated Warbler, House Sparrow, and Bachman's Sparrow. In many or most cases these birds may have been present and just not observed.

In addition to the birds of Ganier's list, my observations add the following species:

Bob-white (*Colinus virginianus*)—several seen close to the camps on several occasions.

Barred Owl (*Strix varia*)—heard once.

Acadian Flycatcher (*Empidonax virescens*)—several in the valley of Rock Creek along the old narrow-gauge railroad bed.

Common Crow (*Corvus brachyrhynchos*)—several in Rock Creek Valley.

Cape May Warbler (*Dendroica tigrina*)—a singing male on June 2, an unusually late transient. This warbler was singing among the branches of some small pines along the south shore of the little lake within the park area. Since it was raining lightly, I was surprised to find a warbler in song. My

7x50 binoculars soon revealed the bird to be a male Cape May Warbler. I watched him at my leisure for nearly half an hour, frequently within twenty feet in the open, and there is not the slightest doubt of the identification.

Parula Warbler (*Compsothlypis americana*)—singing males in several scattered parts of the park, including close to the lake. Nest with four eggs at Laurel Falls, June 3, 1946.

Several other general notes may be added. A nest of the Kingbird was seen high in the tall pine beside the Recreation House at the lake. Many nests of Phoebe and several of the Rough-winged Swallow were found on the ledges along the lake, the swallows in pot-holes. The Peregrine Falcon was seen only once, near the eyrie found by Herbert and Spofford (MIGRANT, 1942) in Wolf River Gorge. No Peregrines were seen at any of the other locations mentioned by Ganier. The Sparrow Hawk was apparently nesting at Rock Island, as reported by Spofford in THE MIGRANT, 1942. This nest was on a cliff in a site mentioned by Ganier in 1937 as being occupied by the Peregrine. Whip-poor-wills were conspicuous at dusk near the camp, and at one time five were seen at different spots on the parking area among the pines around the cabins. The elaborate courtship display could be watched from the cabin window.

No Red-cockaded Woodpeckers were observed, but nesting holes indicating their presence were found. My attention was first attracted to a number of tall pines on an open knoll near the "Natural Bridge." A patch of long dried pitch on the bare trunk surrounded the lower side of what was apparently an old woodpecker excavation, and the bark seemed less rough near the old nest. Thinking this an unusual situation for a woodpecker nest, I examined the other trees and soon found four more nests which could be arranged in sequence based on "newness." One was apparently a nest of earlier that spring, as much fresh pitch was below the opening. A well marked band completely around the trunk, where all the rough parts of the bark had either been stripped or worn away by the birds, marked the nest site even when the observer was out of view of the actual nest. The four nests varied in height from about fifteen to forty feet. Altho once or twice a medium-sized woodpecker was seen flying away from that region, no woodpeckers were identified nearby except an occasional Flicker. In late June, 1947, one year after the above, a visit to the area revealed a new nest about forty feet up in a slender pine. Not only was fresh pitch and a well marked band around the trunk clearly visible, but for six or eight feet below the nest flakes of bark had been chipped off, making conspicuous light marks in the bark. Again no birds were seen which I could suspect of being the nest builders. Presumably nesting had taken place earlier in the season and the family had left the area. The nest holes appeared to be fairly large, but perhaps smaller than would be expected of a Flicker, and some were definitely so. It is my belief that these nests were those of the Red-cockaded Woodpecker (*Dendrocopos borealis*). — WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tenn.

NOTES HERE AND THERE

Annual Meeting of the T. O. S.

The annual meeting of the Tennessee Ornithological Society will be held on May 16, 1948, at Nashville in conjunction with the Spring Field Day of the Nashville Chapter. The members of the Nashville chapter have in the past managed a fine program for this day and the preceding Saturday. The President of the Nashville chapter, Mr. Edwin D. Schreiber, issues an invitation to all state members and friends to attend this year's meeting, and it is hoped that representatives will come from all over the state. The meeting of the Society's directors will presumably be on Saturday afternoon, May 15.

Report of Finance Committee

The fine work of the Endowment Committee, Mr. B. H. Abernathy, chairman, and the generous offer of the allied Tennessee Audubon Society, previous recipient, through the efforts of Mr. Albert F. Ganier, of a bequest from Mrs. Nancy Boyd Miller of Washington, D. C., have recently culminated in the purchase for the T. O. S. of 33 shares of Massachusetts Investors Trust. The checks received by Treasurer L. C. Kent were for \$455.33 and \$454.51, respectively, or a total of \$909.84. The amount invested was \$892.98 and it is hoped that the shares will yield an income of about 4%. This action was recommended by your finance committee, which was instructed to take action at the May, 1947, meeting of the Society and its Board of Directors.—BEN B. COFFEY, Jr., Chmn. T. O. S. Finance Committee.

News of the Chapters

The Memphis chapter now consists of about eighty-two members. Its officers are: President, Brother Ignatius Vincent; Vice-President, Mrs. Clarence E. Moore; Secretary, Miss Alice Smith, and Treasurer, Miss Mary Davant. Meetings are held on the second Wednesday of each month at the Memphis Museum, and a field trip is held once a month. The annual Spring Field Day for this chapter will be held on May 2.

The Nashville chapter numbers about eighty-one members. Its President is Edwin D. Schreiber; Secretary, Miss Helen M. Howell; Corresponding Secretary, Miss Penelope Montfort, and Chairman of the Program Committee, Albert F. Ganier. By unanimous vote of the chapter, Bill Crouch was elected as the first Conrad Jamison, Jr., Memorial Fellow for the year. This chapter meets on the second and fourth Mondays of the month. The annual Spring Field Day, at which time the state society also meets, will be held on May 16.

The Knoxville chapter has about twenty-nine members. The President is Robert J. Dunbar; Vice-President, Miss Elise Morrell; Secretary-Treas-

urer, Mrs. Robert A. Monroe. Meetings are held on the first Wednesday of the month, and the spring field day will be held on May 2.

The Greeneville chapter consists of about thirteen members. Among the officers elected on December 28, 1947, are the President, J. B. White; Vice-President, C. M. Shanks; Treasurer, Mrs. Willis Clemens; Secretary, Mrs. J. B. White; Statistician, Mrs. Richard Nevius, and member of the State Board of Directors, Richard Nevius.

The Elizabethton chapter numbers twenty-four members. The officers are: President, J. C. Browning; Vice-President, William A. Sutherland; Secretary, Mrs. Avery Evans; Treasurer, Miss Mary Cook; Statistician, Mrs. Lee Roy Herndon; Publicity Chairman and Historian, Mrs. George K. Leonard. The fourth anniversary banquet of the chapter was held on February 21; the entire membership and forty-five guests, including representatives of other chapters, were present, and Mr. Albert F. Ganier was the guest speaker. During the spring this chapter is sponsoring a course in bird identification, which is open to both members and non-members.

T. O. S. Membership Drive

President L. R. Herndon has appointed Mr. Albert L. Powell, Jr., (757 Shotwell St., Memphis 11) to be chairman of the T. O. S. Membership Committee for 1948. The other members of the committee are the chairmen of the various local chapter membership committees. The objective of the state committee is to increase the membership by approximately 150 new members, which can best be accomplished by an increase of about 50% in the membership of local chapters. If this objective is attained, the Society will be on a firm financial footing, and it will be possible to expand and improve THE MIGRANT. Mr. Powell has emphasized the importance of Junior Membership for younger people who will be the future active members of the Society. Mr. Powell has prepared a handsome membership blank for new applications.

THE MIGRANT

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All items for publication should be sent to

James T. Tanner, Editor, Department of Zoology, University of Tennessee,
Knoxville, Tennessee

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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

DR. CLARENCE E. MOORE

On October 29, 1947, the Memphis Chapter of T. O. S. lost by death one of its most active and distinguished members when Dr. Clarence E. Moore, Professor of Biology at Memphis State College, passed away at his home after an illness of two weeks.

Although his name is closely identified with biological research in Tennessee, Dr. Moore was not a native Tennessean, having been born in Walla Walla, Washington. He did his undergraduate work at the University of Montana, and received his Ph.D. from Columbia University. Prior to joining the Memphis State College faculty in 1928, he had taught in schools in the Middle West and had spent some time in Panama in research work for the United Fruit Company. He was a member of the American Association for the Advancement of Science and of the Executive Committee of the Tennessee Academy of Science.

Emanating from his love for his work but expanding to take in the whole realm of study and appreciation of nature were Dr. Moore's interests. In the fore of these was ornithology. Within three years after he assumed his duties at Memphis State he became actively associated with the Memphis Chapter of T. O. S. Through the years of this association his leadership and helpful influence have been felt in many ways. He served as president of the local chapter in 1935 and 1936. During the year 1939-1940 he served as T. O. S. Vice-President for West Tennessee. At the time of his death he was on the State Board of Directors, having also served in that capacity in 1938-1940.

Dr. Moore is survived by his accomplished wife, Mrs. Amy Weedon Moore, who shared with him not only common interests but also specialized knowledge in the field of biology; two sons, Stuart and Kenneth Weedon Moore; and one daughter, Patricia Ann Moore. These other members of his family possess the same zest for knowledge of the out-of-doors.

Essentially Dr. Moore was a scholar, but he bore his scholarly knowledge with such modesty that everyone felt at ease with him. So patient was he in sharing his knowledge with beginners who wished to learn, that many outside his classroom became his students on field trips and in discussions at club meetings. Activity in all worthwhile causes characterized his mode of life, for he gave much time to his church, his college, and to the numerous scientific organizations with which he was affiliated. Although the actual presence of Dr. Moore will be missed, his quiet-mannered leadership and influence will live on and be felt for many years to come through the inspiration which he gave to numerous students to continue their study in higher education and through his helpful association with those sharing his many interests.—NELLE MOORE, for the Memphis Chapter of T. O. S.

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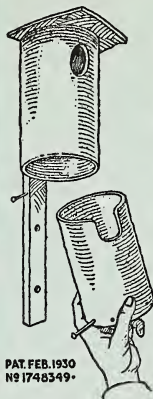
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OBSERVING THE NOCTURNAL MIGRATION OF BIRDS.

With a telescope of moderate power it is possible to see birds migrating at night when they are silhouetted for a brief instant against the bright face of the moon. Individual observers have used this method in making studies of migration, and calculations have been devised for measuring the direction of flight, the altitude, and abundance of the migrants. Recently Prof. George H. Lowery, of Louisiana State University, organized a program aimed at learning more about bird migration thru wide use of this method. He sought the cooperation of ornithologists and bird students over much of the county and has supplied them with detailed instructions on the proper methods of watching and recording. The result has been a lot of moon-gazing this past spring. In Memphis, Nashville, and Knoxville members of the T. O. S. cooperated in the program of watching for migrants on the nights of full moon in April and in May. The observations made at Nashville and Knoxville are described below.

OBSERVATIONS AT NASHVILLE

By ALBERT F. GANIER

In response to an invitation from Dr. George Lowery, of Louisiana State University, the writer organized a group of Nashville members of the T. O. S. to make telescopic observations at Nashville of birds passing across the disc of the April, 1948, full moon. Thru the kindness of Dr. Carl K. Seifert, of the Barnard Observatory at Vanderbilt University, their facilities were placed at our disposal and we were aided by his assistant, Mr. Ted Lewis. Their telescope is a sixty power of eight feet focal length, six inch aperture, refracting, equatorially mounted. Viewing was done thru a right-angled eyepiece.

Two full nights were planned and observers working in pairs were allocated two hour periods in order to make observations continuous thru the nights beginning April 20. Due partly to lack of practice but chiefly to haze and intermittent clouds, the first night's results were poor and a completely clouded sky terminated activities at midnight. A dozen birds had been reported up to that time, doubtless but a fraction of those which might otherwise have been recorded. The group could not be assembled for the following night.

April 23 was the night of the full moon and observations began at 9:50 P.M. and ended at 2:14 A.M. During the first period, between 9:50 and 11:29, with a net time of ninety minutes at the telescope, sixty-one birds were seen by Miss Julia Saffer and two Vanderbilt students (names not secured). These three had had experience with this telescope. Mr. James

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A. Robins recorded thruout the evening. At 11:32 the writer began observing and saw ten birds during the next twenty-four minutes. An accident then halted operations until 12:53, from which time the writer both observed and recorded until 2:14 A.M. A net time of sixty-eight minutes during this period showed thirty-four birds seen. This was at the rate of one bird every two minutes.

On the night of Saturday, April 24, those who had come at 9:00 to watch until 11:00 P.M. found that the moon had not risen above adjacent tree-tops during that time. At 11:18 the writer began observing with E. D. Schreiber recording and observed eighteen birds passing in eighteen minutes. From 11:38 to 11:53, Schreiber observed five birds in fifteen minutes. From 12:01 to 12:15, the writer observed twenty birds in fourteen minutes. Visibility was at this time perfect and for the next fifteen minutes we yielded the telescope to a group of students who called but who could see only the moon. Just as we resumed operations, a cloud bank moved in, and after waiting an hour for it to move on, we reluctantly gave up for the night.

In recording our observations, we set down the direction of flight in terms of the figures on a clock. The prevailing direction showed birds entering at 2 and passing out at 8. In terms of the moon's physical features, this brought them in over Mare Humerum and passed them out over Mare Crisium. The records will be passed on to Dr. Lowery for complete interpretation and for coordination with those of other stations. Of the 148 birds mentioned above and seen during 229 minutes, pairs were observed on six occasions.

Dr. Lowery's project is a most commendable one and coordination of the results obtained from the numerous stations will throw some new light on migration. The Nashville Chapter intends to continue its cooperation and hopes for more extended periods of observation. It cannot be too strongly urged that cooperators should get in an hour's preliminary practice before taking their assigned time.—2112 WOODLAWN DRIVE, NASHVILLE, TENN.

OBSERVATIONS AT KNOXVILLE

By JAMES T. TANNER

A group of observers at Knoxville, organized by Dr. Joseph C. Howell, also cooperated in the "birds against the moon" watching project, and obtained excellent and interesting results. Observations were made on the two nights of full moon in both April and May, 1948. There were over a dozen observers helping: members of the Department of Zoology and of the Department of Physics, some graduate students of the University of Tennessee, and members of the Knoxville chapter of the T. O. S. The telescope used was a forty power refracting telescope mounted on the roof of the Physics and Geology Building, on the University of Tennessee campus.

The first night's observations, on the night of April 22-23, 1948, produced the greatest number of birds seen. Over a hundred birds were recorded before 11:00 P.M., Eastern Standard Time, and the peak seemed to occur between 10:00 and 10:15 when twenty birds were seen in the fifteen

minute interval. After 11:00 the numbers seen dropped sharply to an average of one bird per four minutes; observations were limited during this time by short periods of cloudiness. On the following night, April 23-24, fewer birds were seen and the peak came much later, between 3:30 and 4:00 A.M. when fourteen birds were seen in the half hour.

The observations on the nights in May were less fruitful, but a surprising number of birds were seen considering how late it was in the migratory season. On the night of May 20-21, a total of about 115 birds were seen, most of them after midnight when birds passed across the moon's face at a fairly steady rate of one bird per three minutes. On the last night, May 21-22, clouds interfered in the early hours, and steady flights averaging one bird per three or four minutes occurred only from 8:30 to 9:00 P.M. and from midnight to 1:30 A.M.; only ten birds were seen from 1:30 to 4:30 A.M.

The birds crossed the face of the moon so rapidly that the usual comment made for each was that it was "small and fast." Occasionally a silhouette or a flight pattern could be recognized. Bats were seen and clearly recognized several times. In the early dawn Purple Martins could be heard overhead, and occasionally one identified as it crossed the moon, at a lower altitude than most birds seen. But most of the birds could be recognized only as birds, nothing more.

In an article entitled "Astronomy and Ornithology," Prof. William A. Rense describes in detail how the flight of birds can be observed against the face of the moon and how from these observations, if they are made properly, the direction of flight, approximate altitude of flight, and approximate number of birds passing over can be calculated.

The period between 11:00 and 11:30 P.M. on May 20 presented conditions such that the calculations for determining the abundance of migrating birds were easy and relatively accurate. During this half-hour seven birds were observed, slightly less than the average for all half-hour periods. Knowing this number, the position of the moon, and the angle subtended by the face of the moon, and assuming the birds were flying at an elevation of one thousand feet above the earth, the number of birds that passed over an east-west line a mile long can be calculated. The calculations show that during this period birds were crossing the imaginary mile-long line at a rate of about five thousand birds per hour.

The path of each bird across the face of the moon was recorded as if seen against the face of a clock; from the angle of this line and the position of the moon the direction of the flight can be calculated. During most half-hour periods the majority of birds seen then were flying in approximately the same direction, but there was some variation as frequently the line of flight of one or more birds crossed that of the majority at angles as great as ninety degrees, and rarely in almost the reverse direction.

On the night of April 22-23, the average direction of flight was north. During part of the night (9:30-11:00 P.M.) there seemed to be two different flights, passing simultaneously but in different directions. One group of birds was moving between north and northwest while a smaller number

were going toward the northeast. On the following night the direction of flight varied roughly between north and northeast.

On the night of May 20-21 most of the birds were traveling toward the northeast. They were possibly following the Tennessee valley, but it is also certain that their flight was affected by the wind. Several times between 1:30 and 3:30 A.M. birds were seen that appeared to be flying sideways. One bird was headed or pointed toward the northeast, but it was moving in a direction a little north of east. A second bird seen to be pointed northeast was actually moving towards the east. The surface wind at this time was light, but the local weatherman reported verbally that about 4:00 A.M. there were fairly strong winds from the northwest at higher elevations. Winds from this direction would explain the observations just described.

The following night, May 21-22, brought further evidence that the direction of migratory flight was affected by the wind. Observations made on previous nights, except for the morning of May 20-21, showed a direction of flight varying from northwest to, more commonly, northeast. During these times the wind direction between one and two thousand feet above the earth was reported by the weather bureau to be from the southwest at speeds of ten to twenty miles per hour. On the night of May 21-22 the wind was reported to be twenty-five miles per hour from the west at 10:00 P.M. and shifting to north-northeast by 4:00 A.M. During this night the direction of bird flight was between northeast and east, becoming more easterly toward morning. It appeared as if the direction of migration had been pushed around by the wind.

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DEPARTMENT OF ZOOLOGY, UNIVERSITY OF TENNESSEE,
KNOXVILLE, TENN.

THE 1948 SPRING FIELD DAYS

This year five chapters of the T. O. S. made day-long field trips during the height of the spring migration. The Memphis, Nashville, Knoxville, Greenville, and Elizabethton chapters each made observations in some area in or near their respective cities, and in addition, Fred W. Behrend, of the Elizabethton chapter climbed Roan Mountain near the northeast corner of the State. The largest list of species was compiled by the Memphis chapter, with 108 species, altho the combined Elizabethton and Roan Mountain count was 112. The total number of species seen for the entire State was 152. The separate field trips are described below, followed by a table summarizing the birds seen in all localities.

Memphis. May 2, 1948—morning in area of Lakeview, Miss.-Tenn., station and along tracks north to Horn Lake Creek; in afternoon at Mud Lake, on levee, and at barrow pits. Weather warm, river bottoms flooded.

Nashville. May 16, 1948—at Ray's Lake and Marrowbone Lake north-

west of Nashville (small lakes in a hilly area of deciduous woods and farmland). Raining in the morning, clearing in the afternoon, with temperatures of about 65 degrees F. This field trip was held in conjunction with the annual meeting of the T. O. S., so the participants included members of the Nashville chapter and many visitors from other parts of the State.

Knoxville. May 2, 1948—at the Ijams farm, at the southeastern corner of Knoxville, and in the vicinity (deciduous woods, farmland, airport, along river). Weather clear and warm, but too windy for good observation of birds. The Least Flycatcher was identified by Dr. J. T. Tanner, by aid of the bird's typical call, "chebec." The Blue Grosbeak, an immature male, was observed at close range by about ten people, including at least two who had seen Blue Grosbeaks before in their usual range.

Greeneville. May 9, 1948—5:00 AM to 8:00 PM—around Greeneville, including Tusculum College, the Reed Farm, Greeneville Lake, and lower Paint Creek to the French Broad River. Clear with temperatures of 50 to 74 degrees F., wind very slight. Twelve people participated.

Elizabethton. May 2, 1948—around Elizabethton, including Milligan, Watauga River from Smalling's Bridge to Horseshoe Dam, along Doe River to Hampton. The Western Sandpiper was identified by Dr. L. R. Herndon.

Roan Mountain. May 2, 1948, 4:30 AM to 5:30 PM—Roan Mountain town to top of Roan Mountain (elevation 6313 feet) and return, Lake Phillip Nelson. Weather changeable, cloudy to clear, varying winds. One observer, Fred W. Behrend.

TABULAR RECORD OF SPRING FIELD DAYS, 1948

The abbreviation "c" means "common"; the abbreviation "f.c." means "fairly common." Figures enclosed by parentheses indicate that the birds were observed outside of the area described above but in a nearby area. For further comments on birds marked with an asterisk (*) see the remarks in the field trip for that locality.

	Memphis	Nashville	Knoxville	Greeneville	Elizabethton	Roan Mtn.		Memphis	Nashville	Knoxville	Greeneville	Elizabethton	Roan Mtn.
Pied-billed Grebe	(2)	---	---	---	2	2	Osprey	---	---	1	---	1	---
Double-cr. Cormorant	15	---	---	---	---	---	Duck Hawk	---	---	---	---	1	---
Great Blue Heron	---	1	---	---	---	---	Sparrow Hawk	(2)	(1)	3	2	2	---
American Egret	9	---	---	---	---	---	Ruffed Grouse	---	---	---	1	1	1
Little Blue Heron	23	---	---	---	---	---	Bob-white	(2)	1	15	7	15	---
Green Heron	8	3	1	3	3	---	Sora	5	---	---	---	---	---
American Bittern	1	---	---	---	---	---	Killdeer	3	(1)	---	10	9	---
Turkey Vulture	4	5	2	29	15	---	Wilson's Snipe	8	---	1	---	---	---
Black Vulture	4	2	---	2	2	---	Upland Plover	3	---	---	---	---	---
Mississippi Kite	1	---	---	---	---	---	Spotted Sandpiper	1	---	2	---	5	---
Cooper's Hawk	1	1	1	1	---	2	Solitary Sandpiper	2	---	1	3	9	1
Red-tailed Hawk	(1)	---	---	---	---	---	Greater Yellowlegs	---	---	---	---	---	2
Red-shouldered Hawk	1	1	---	1	---	---	Lesser Yellowlegs	3	---	---	---	1	---
Broad-winged Hawk	---	---	3	---	---	---	Pectoral Sandpiper	3	---	---	---	---	---

	Memphis	Nashville	Knoxville	Greeneville	Elizabethton	Roan Mtn.		Memphis	Nashville	Knoxville	Greeneville	Elizabethton	Roan Mtn.
Western Sandpiper	---	---	---	---	1*	---	Migrant Shrike	7	---	---	---	---	---
Mourning Dove	12	3	23	49	22	---	Starling	---	2	c	20	90	---
Yellow-billed Cuckoo	2	5	---	4	1	---	White-eyed Vireo	16	f.c.	15	7	37	---
Black-billed Cuckoo	---	---	---	3	1	1	Yellow-throated Vireo	2	3	6	2	2	---
Screech Owl	(1)	(2)	2	---	1	---	Blue-headed Vireo	---	(1)	---	---	1	4
Barred Owl	(1)	---	---	---	---	---	Red-eyed Vireo	17	c	c	19	39	13
Chuck-will's-widow	---	(5)	2	2	---	---	Warbling Vireo	6	(2)	---	---	6	---
Whip-poor-will	---	---	---	4	---	2	Bl. and Wh. Warbler	4	4	9	6	14	4
Nighthawk	(1)	3	2	5	2	---	Prothonotary Warbler	6	(1)	---	---	---	---
Chimney Swift	8	7	35	55	71	7	Swainson's Warbler	2	---	---	---	---	---
R.-thr. Hummingbird	15	2	6	1	4	---	Worm-eating Warbler	---	2	---	---	---	---
Belted Kingfisher	2	---	1	2	3	---	Golden-w. Warbler	---	---	---	---	---	2
Flicker	6	1	15	9	29	2	Blue-winged Warbler	---	3	---	---	1	---
Pileated Woodpecker	1	1	---	1	1	---	Tennessee Warbler	10	3	2	---	---	---
R.-bellied Woodpecker	2	1	1	---	---	---	Nashville Warbler	1	---	---	---	---	---
R.-headed Woodpecker	1	(2)	---	10	---	---	Parula Warbler	8	---	3	3	15	6
Hairy Woodpecker	1	1	---	---	---	1	Yellow Warbler	1	3	8	22	96	14
Downy Woodpecker	4	2	7	5	3	---	Magnolia Warbler	(20)	1	2	4	---	---
Kingbird	15	2	2	14	7	---	Cape May Warbler	---	---	2	5	---	---
Crested Flycatcher	6	3	8	9	4	---	Blk.-thr. Blue Warbler	---	---	---	---	---	32
Phoebe	---	6	4	18	15	4	Sycamore Warbler	3	4	1	---	---	---
Acadian Flycatcher	(1)	3	3	1	5	---	Myrtle Warbler	(1)	---	c	4	11	---
Least Flycatcher	---	---	1*	---	3	22	Blk.-thr. Grn. Warbler	3	1	6	2	11	12
Wood Pewee	9	8	6	17	11	1	Cerulean Warbler	1	f.c.	2	---	2	---
Ol.-sided Flycatcher	---	1	---	---	---	---	Blackburnian Warbler	(1)	---	2	1	---	2
Horned Lark	---	---	3	2	5	---	Ch.-sided Warbler	6	2	14	4	1	26
Tree Swallow	12	---	---	1	---	---	Bay-breasted Warbler	---	3	---	1	1	---
Bank Swallow	---	---	---	---	5	---	Black-poll Warbler	8	2	---	3	---	---
R.-winged Swallow	8	6	24	17	31	5	Pine Warbler	---	---	1	---	---	---
Barn Swallow	2	3	---	6	5	---	Prairie Warbler	---	f.c.	7	1	4	---
Cliff Swallow	---	---	---	---	7	---	Palm Warbler	---	---	---	---	1	---
Purple Martin	(10)	4	18	4	5	---	Ovenbird	1	1	1	6	15	28
Blue Jay	13	3	10	29	22	4	La. Waterthrush	(1)	f.c.	7	7	1	3
Crow	7	1	24	33	31	4	Kentucky Warbler	11	4	21	4	18	1
Carolina Chickadee	12	f.c.	16	16	28	7	Md. Yellow-throat	28	f.c.	c	22	57	15
Tufted Titmouse	6	f.c.	18	23	22	4	Yellow-br. Chat	22	f.c.	20	13	38	3
White-br. Nuthatch	3	2	---	---	---	---	Hooded Warbler	9	2	2	6	13	4
Red-br. Nuthatch	---	---	---	---	---	4	Canada Warbler	1	1	1	1	---	19
House Wren	---	---	---	5	1	---	Redstart	10	4	3	9	9	---
Winter Wren	---	---	---	---	---	19	English Sparrow	---	3	10	50	157	---
Bewick's Wren	---	(2)	3	2	6	1	Bobolink	---	---	---	3	83	---
Carolina Wren	7	c	25	17	36	5	Eastern Meadowlark	23	2	14	33	42	1
Mockingbird	5	2	25	24	28	---	Red-winged Blackbird	18	(3)	32	62	33	---
Catbird	2	5	10	40	100	10	Orchard Oriole	9	(3)	10	7	13	---
Brown Thrasher	9	2	21	33	53	1	Baltimore Oriole	3	(1)	2	---	2	---
Robin	5	1	c	39	96	22	Bronzed Grackle	12	(6)	18	48	74	---
Wood Thrush	12	f.c.	c	39	36	18	Cowbird	23	4	20	33	13	---
Olive-backed Thrush	2	2	1	1	---	---	Scarlet Tanager	2	3	9	5	7	9
Gray-cheeked Thrush	1	---	---	1	---	---	Summer Tanager	15	4	20	13	3	---
Veery	---	---	4	---	---	3	Cardinal	40	f.c.	c	54	82	2
Bluebird	4	4	6	27	25	1	Rose-br. Grosbeak	---	1	9	---	2	16
Blue-gray Gnatcatcher	6	4	16	7	9	---	Blue Grosbeak	---	---	1*	---	---	---
Ruby-crowned Kinglet	1	---	---	---	---	1	Indigo Bunting	75	c	c	53	67	---
Cedar Waxwing	(1)	18	c	98	48	---	Painted Bunting	3	---	---	---	---	---

	Memphis	Nashville	Knoxville	Greeneville	Elizabethton	Roan Mtn.		Memphis	Nashville	Knoxville	Greeneville	Elizabethton	Roan Mtn.
Dickcissel	80	---	---	---	---	---	Chipping Sparrow	---	f.c.	12	37	29	5
Purple Finch	---	---	2	---	---	---	Field Sparrow	12	f.c.	13	19	47	8
Goldfinch	3	c	15	36	80	14	White-cr. Sparrow	---	---	---	1	9	---
Towhee	---	f.c.	24	20	23	13	White-thr. Sparrow	12	---	16	5	27	---
Savannah Sparrow	20	---	---	---	3	---	Lincoln's Sparrow	1	---	---	---	---	---
Grasshopper Sparrow	8	---	5	7	22	1	Swamp Sparrow	5	---	---	---	---	---
Vesper Sparrow	---	---	---	1	---	---	Song Sparrow	---	---	28	30	109	6
Bachman's Sparrow	---	---	---	---	1	---							
Junco	---	---	---	---	---	44	Total Species	108	91	92	94	99	57

THE ROUND TABLE

NOTES ON HAWKS IN WEST TENNESSEE—The Red-tailed (*Buteo jamaicensis*), Red-shouldered (*B. lineatus*), and Broad-winged (*B. platypterus*) Hawks constitute the nesting "Buteos" in West Tennessee. The Broad-winged Hawk with its retiring habits is seldom seen except in the rather continuous wooded region between the Tennessee and Cumberland Rivers. The Red-tailed and Red-shouldered Hawks are well distributed thruout this section of the state. The Red-shouldered prefers the low marshy woods near a stream and open fields, while the Red-tailed can usually be found riding the air currents near the wooded hillsides where his bulky nests are situated. It is my observation that in the past five years the Red-shouldered Hawk has been steadily decreasing in numbers due to the clearing by local residents and the flooding by TVA of thousands of acres of ideal nesting and hunting land and by the indiscriminate shooting by waterfowl hunters frequenting the surrounding marshland areas. On the other hand, the Red-tailed Hawks nesting on the timbered hillsides appear to have profited from the situation as an increased food supply in the form of the flooded area's rodent population has virtually moved into the hawk's back yard. This condition, however, can only be temporary and local, and the next few years should bring back a more balanced state of affairs.

During the winter of 1946-47 the backwaters and streams flowing into the Kentucky Lake rose to an unusually high level due to an extremely rainy period. In many sections minor flash floods overnight covered meadows and cultivated areas and flushed the field mice from their snug winter lairs. It was reported to me that the wintering Marsh Hawks (*Circus cyaneus*), which are well represented in West Tennessee in the colder months, were flying low over the flooded lands and snatching any unfortunate mice caught struggling for their lives. The mice were in such numbers that the hawks were catching them one after another and depositing their prostrate forms on suitable perching sites and then returning to eat them at their leisure. This certainly adds to the Marsh Hawk's record as a first rate mouser.—TOM BUTLER, 708 Poplar St., Paris, Tenn.

MELANISTIC RED-TAILS AT REELFOOT LAKE.—During a half day visit to Reelfoot Lake, Tenn., on December 27, 1947, Mr. Butler and the writer noted approximately twenty-five Red-tails (*Buteo jamaicensis*) perched or flying near the lake, and doubtless we saw only a part of the number present. Inasmuch as it is well known that the dominant breeding form is the Red-shoulder, it is clear that the Red-tails were wintering birds. Although far more conspicuous than the Red-shoulder, the latter was present also, about ten birds being seen. While we were standing at the end of the board-walk near Walnut Log, we could see perched on dead stumps and trees out in Blue Basin at least three Red-tails, one Red-shoulder, and two Bald Eagles. Furthermore, while we watched a single Cooper's Hawk came past, and also an immature male Harrier (Marsh Hawk).

Three of the Red-tails were variously melanistic. It is well known that melanism is frequent in western red-tails, while very rare in eastern, suggesting that some of the Red-tails were of western origin. The three dark birds may be described as follows: (1.) A sooty black bird with lighter reflections on the underside of his wings. Seen perched at same place on Dec. 30 by Butler and James Norman of Dyersburg; they further noted that its tail was red. (2.) The second bird was perched above an open field about fifty feet from a normal adult in the next tree, while another normal Red-tail flew overhead. This bird was also sooty black except that its throat and upper breast were distinctly coppery. Underside of tail was pale, but we could not see whether it was black or red above. (3.) The third bird was not sooty, but very dark brown above and no white below, just dark brown with streakings barely visible.

The sooty forms are difficult to distinguish from *Buteo harlani* in the field, but the red tail is a clear mark of the Red-tail in the present case (1) above. It is possible that some dark *Buteos* wintering in the Mississippi valley are *harlani*, but this species is so close to melanistic western Red-tails in general appearance that sight identifications should not be attempted. —WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tenn.

GOLDEN EAGLE IN THE GREAT SMOKY MOUNTAINS IN JULY.—On July 18, 1948, at about 5:30 A.M., a Golden Eagle (*Aquila chrysaetos*) passed along the main ridge just west of Newfound Gap in the Great Smoky Mountains National Park. When first seen, the bird was soaring motionless on the windward side of the ridge. The sun had not yet risen, but it was light enough for me to see the solid brown color of the underparts. At one time I had a captive Golden Eagle, so I was familiar with the proportions and silhouette, the broad wings and comparatively small head and bill, of this eagle. It was probably an adult as I could see no signs of white at the base of the tail. It was obviously molting, as several of the wing feathers were either missing or only partly grown. After almost a minute of soaring in one spot, the eagle glided off to the west on half-closed wings. As soon as possible, I drove west to Clingmans Dome but did not see the bird again. The Golden Eagle has been seen a few times before in the Great Smoky Mountains in summer.—JAMES T. TANNER, University of Tennessee, Knoxville, Tenn.

EARLY NESTING OF BALD EAGLE AT REELFOOT LAKE.—A nest of the Bald Eagle on the eastern side of Blue Basin at Reelfoot Lake, Tenn., has been described in earlier accounts of *THE MIGRANT* (1945, March and December issues), and it may be recalled that on May 1, 1944, three young nearly ready to leave the nest were seen from below, and that on April 17, 1945, two young fully grown and nearly fully feathered were banded in the same nest. On each of these trips another eagle nest, at Burnt Woods several miles south and somewhat west of the above site, was visited without finding any evidence that the nest was occupied, although Dr. Pickering reported that an adult was on the nest in January of one of these years.

On February 22, 1947, the writer visited this nest with Mr. Thomas Butler and at once saw that two young were present, fully grown and perched conspicuously on the side of the nest. Since these birds appeared to be nearly two months old, the eggs must have been laid in November, and presumably the young would have left the nest before April. It is clear that this pair nests at least two months earlier than the Blue Basin pair, and it is probable that the visits to the Burnt Woods nest in April and May revealed no birds merely because they had left the nest several weeks earlier. It may be recalled that in the remarkable work of Broley on the Bald Eagle in Florida, during which he banded more than 800 young, he found both early (November) and late (January-February) nesters in Florida.—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tenn.

NOTES ON A BLUEBIRD "MICROCOSM".—Although it is now well known that an important limiting factor in a Bluebird population is the availability of suitable nesting sites, the following observations on a small group supported mainly by mail-boxes is thought worthy of record. In the residential area just outside of Nashville known as "Lealand," around the intersection of Granny White Pike and Tyne Road, approximately forty houses were built in 1938 to 1942 on two acre lots in what was previously a mixed area of small woodlots and open pastures. Although there are no observations on the numbers of Bluebirds in the area before the houses were built, it probably was not a conspicuous bird, as a study of similar situations at the present time indicates. The presence of mail-boxes and the long cylindrical newspaper boxes furnished a "niche" suitable for Bluebird nesting, and a small but relatively dense population grew there from an unknown but presumably much smaller group.

I first noticed several pairs of Bluebirds in my vicinity shortly after moving into my house in March, 1942, and found that there were at least four pairs nesting or attempting to nest in the mail-boxes along the street (Gateway Lane). Within a short time I found one bird dead under one box, where it presumably had been trapped by the mailman, and another I found hanging inside a box with its head through the crack where the door had been closed with the bird inside. It was not hurt and flew away readily when freed. Several nests were thrown out either by residents or the mailman making room for mail. In other cases, nests in newspaper boxes were at the rear end and the paper was jammed against it each morning and night. In general such nests seemed to survive all right, but in one

case where the paper was not collected for several days the nest was completely blocked, and when I took the papers out (and left them on the ground!) the bird, which had been trapped sitting on her eggs, flew out apparently in good condition, and young later left this nest. On our own mail box, we affixed a shoe-box for the mail and left the regular box for the Bluebirds. Roger Peterson, visiting us for a week in May, 1942, took an excellent picture of the male perched on the flag of the mailbox. It may be mentioned here that there was also considerable competition for the boxes with both Carolina and Bewick's Wrens. In one or two locations a Bewick's Wren occupied the newspaper box while Bluebirds lived in the mail-box a foot away. I kept notes on only the eight or nine houses on my short street (Gateway Lane) and do not know what sort of a population was maintained by boxes on Tyne Road and Sewanee Road nearby.

In 1943 I put up four boxes on fence posts around my two acre lot, and two of these were used by Bluebirds each year until 1947, and often a Carolina Chickadee has used another. At least eight pairs have lived on my short (300 yard, eight houses) street, and apparently an occasional pair lived more deeply away from the street. Since each pair seemed to raise or attempt to raise three broods each year, the number of young leaving the nests was considerable in spite of several adverse factors. After leaving the nests, the parents and young disappeared for a time; later they all reappeared, when the female began to incubate a new set of eggs while the male fed the previous brood.

I did not note actual predations except a very few times. On June 16, 1946, one box contained several young of the second brood. In the afternoon I became aware of the alarm notes of Bluebirds and a number of other birds. Glancing toward the box, I had an impression that I saw a slim head emerge and pull back again quickly. Opening the box I found what seemed to be the world champion Gray Rat Snake (*Elaphe obsoleta confinis*), all but six feet long. After capturing this specimen and examining it preparatory to presenting it to the "Live Museum" collection of the Nashville Children's Museum, I realized that the commotion among the birds was apparently unabated, so out of curiosity went over to the box again. To my great surprise it was again occupied by an even larger *Elaphe*, and this was in turn captured and the pair then presented to the museum. As might be expected, the young Bluebirds had been consumed by the first snake, and a check of the other occupied box down the fence some fifty yards away showed that empty also. Perhaps the two snakes were hunting as a pair, and as I removed the first snake, the other may have been coming along the fence to arrive just a moment later.

It is interesting that this same box was the occasion of another snake predation on August 10, 1947. There were two half grown young of the third brood present when I heard the alarm notes of the Bluebirds. This time there was a three-foot Kingsnake (*Lampropeltis getulis*) in the nest. One young was dead, and well covered with saliva preparatory to being swallowed. The other was alive even under the weight of the snake and lived to leave the nest as the only member of a brood of three. Unfor-

tunately the snake was later lost, and I will be curious to see if he turns up another year.

The Bluebirds are conspicuous as lawn birds each winter and several pairs are regularly to be found close by. In February, 1947, two pairs were on my place, at least one next door, and others on the street. After the severe ice and snow of late February and early March, 1947, I found one dead male Bluebird on the snow beneath a mail-box. By the middle of March the absence of most of the Bluebirds was conspicuous. One pair remained to nest on my fence, but there were no other pairs left on the street, nor did they appear at any time during the nesting season. The only pair remaining nested in one and then another of two of my boxes, raising four young, then three young, and finally the one mentioned above. I don't know how well my "microcosm" was an indicator of what happened to the Bluebirds at large, and particularly the large population being studied by Mrs. Laskey. It will be interesting to see how long it takes to build the small Gateway Lane population back to its normal (?) seven or eight pairs.

In conclusion, it may be mentioned that in spite of the fact that a pair of Kestrels (Sparrow Hawks, *Falco sparverius*) nest each year in a box on a dead tree on my front lawn, I have never seen them attempt to bother the Bluebirds. In fact the only bird predation by them that I have witnessed was a young Blue Jay taken directly from the nest just after the parent Blue Jay flew off. The presence of a tethered Gyrfalcon and a Peregrine Falcon on the lawn only a few yards from the Bluebirds bothered the latter not a bit.—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tennessee.

THE CONNECTICUT WARBLER IN KNOXVILLE.—Knoxville, Tenn., lies midway between the Spring and Fall migration routes of the Connecticut Warbler (*Oporonis agilis*) which, from available records, has been seen only twice in this area. And yet I have had an experience similar to that of Mr. Abernathy in Nashville, described in THE MIGRANT for June 1943.

On May 18, 1947, while walking in the woods adjoining our yard, I saw on a low branch a plain-backed warbler, which revealed as it turned its head first the conspicuous white eye-ring and then the gray bib of the Connecticut Warbler. The next morning I heard a strange song which I was sure belonged to this bird, as it fitted R. T. Peterson's description of "beecher, beecher, beecher, beecher"; but I was unable to locate it and did not hear it again for a week. On May 26 it sang intermittently all day. From our house the hill slopes gradually down for a block through oak woods with a dense undergrowth of locust, redbud, honeysuckle, and blackberry to Cherokee Boulevard. Across the street is a steep rocky hill, with an even more tangled undergrowth, the home of Kentucky Warblers and Ovenbirds. I spent all day trying unsuccessfully to locate the singer, but the next morning had a fine view of it in the redbuds near the porch. Having definitely correlated bird and song, I called several members of the T. O. S., but no one was able to come, so I listened to it alone for three hours, occasionally watching it as it sang from a small branch of redbud, pointing its bill straight up with each outburst.

Attempts to describe the song illustrate the inadequacy of words to express bird notes, for "beecher" and "teacher" sound dangerously similar. Our nesting Ovenbirds use the single syllable "cher"; migrating Ovenbirds "tea-cher" or "tea' cher", but the performance is smooth and of increasing volume. The Connecticut, on the other hand, has a jerky, sputtery, or explosive voice unlike any other bird.

On May 22 of this year (1948) I again heard the song, quite unmistakable in quality, though suggesting the word "chipper" rather than "beecher." As soon as I saw the bird I called Dr. Joseph Howell, but a field trip with his class prevented his coming before ten-thirty the next morning. The bird had been singing then for four hours, first on one side of the street and then the other, but stopped the moment Dr. Howell arrived. I believe now that the car coming up the street, where there is almost no traffic, may have silenced it, for the same thing happened when Dr. James Tanner came out on May 25. However, just as Dr. Tanner was leaving the bird sang several times quite close to us, though we were unable to see it. Dr. Tanner was sure than he had never heard the song before. It sang from May 22 through May 26, from about six to ten-thirty each morning.

Once before, on May 20, 1941, I saw a Connecticut Warbler at Island Home, Knoxville, but being a beginner I did not say much about finding a bird so unusual.

Two reasons occur to me for the scarcity of records of this bird, which is sometimes to be found. The first is the fact that its song is not known, even tho Mr. Abernathy calls the song a give-away; the second is that it comes so late, after most migrants have passed thru and interest in field trips has waned.—MRS. ROBERT A. MONROE, 3545 Tugaloo Drive, Knoxville 16, Tenn.

WESTERN HENSLOW'S SPARROW IN EAST TENN.—The following record of a species rare in Tennessee is here given, thru the courtesy of Messrs E. V. and Roy Komarek who were making a natural history survey of the Great Smoky Mountains National Park area at the time. Between Oct. 28 and 31, 1933, quite a number of Savannah Sparrows were found in the old-fields of Cade's Cove, within the Park area, and 13 specimens were collected for subspecific determination. On Oct. 28, in addition to the 6 Savannah Sparrows collected that day, a Western Henslow's Sparrow (*Passerherbulus henslowi henslowi*), in the rich buffy plumage of that season, was taken. This specimen has been examined by Dr. Alexander Wetmore, of the U. S. National Museum, who has identified it as the western race named above. No others of this species were secured or could be identified among the many Savannahs that were flushed. The altitude here ranges from 1700 to 1800 feet above sea level. This is the first specimen of a Henslow's that has been collected in Tennessee. It has been carefully searched for about Nashville and Clarksville for many years without success. About Memphis, Messrs Coffey and Burdick have recorded a few transients (MIGRANT, 1942:23 and 1936:69). Apparently, most of them fly over Tennessee without stopping, enroute to and from their winter home near the

Gulf and South Atlantic coasts.—ALBERT F. GANIER, 2112 Woodlawn Dr., Nashville, Tenn.

A WHITE-TAILED SONG SPARROW—In the late afternoon of March 4, 1945, while exploring the Northern bank of the Watauga River near Elizabethton, I happened to flush two Sparrows. Surprisingly, as first noted in flight, the tail feathers of one of the birds displayed white, which led me to conclude the species to be a Vesper Sparrow. However, not satisfied with this conclusion, since early March seemed to constitute too early a date for the arrival in this region of the Vesper Sparrow, I commenced stalking the birds which had alit a short distance from me in the tangle of branches. In due time the birds appeared on terra firma to feed in grass and weeds. The identity of one of them was readily established as that of a Song Sparrow. The other bird, also, bore unmistakably all the markings of a Song Sparrow; yet the feathers of its tail, to an extent of approximately three fourths of its width from base to tip, were distinctly white. I stayed with the birds some half hour, getting close enough views from time to time, and from all angles, while they were on the ground as well as in flight, to make absolutely certain of the unusual appearance of the white-tailed Sparrow.—FRED W. BEHREND, 322 Carter Boulevard, Elizabethton, Tennessee.

THE T. O. S. ANNUAL MEETING OF 1948

The program for the annual meeting of the T. O. S. at Nashville began on Saturday morning, May 15, when several visitors and members of the Nashville chapter met at Radnor Lake for a short field trip. From there the group went to the Nashville Children's Museum, where Dr. Harry S. Vaughn guided the visitors around and explained many of the excellent exhibits as well as surveying the history of the museum. The William Walker-T. O. S. Library, which is housed in the Museum, was also inspected by the group. Luncheon followed at the Peabody College Cafeteria.

In the afternoon there was an informal open house at Mr. Albert F. Ganier's "Hobby House," where Mr. Ganier's collection of birds was the center of interest. The group had by this time swollen to a small crowd as visitors from more distant areas arrived.

The meeting of the directors was held on the spacious lawn of Mr. B. H. Abernathy. All the officers of the Society and most of the directors were present. Pres. L. R. Herndon was the chairman and Secy. Fred W. Behrend recorded the minutes of the meeting. The most important item of business was the revision of the Society's constitution. There was considerable discussion over some of the points of revision, but eventually a new constitution was agreed upon to be proposed to the meeting of the members on the following day.

A group dinner was held that evening at the B & W Cafeteria. Following this, Mr. Ben B. Coffey of Memphis told about his experiences studying birds in India. His talk was illustrated with pictures of common Indian birds, and it was so well given as to arouse envy in some at the opportunity he had to become familiar with the birds of a strange land.

Several visitors were generously housed that night at the cottages belonging to some of the Nashville members on Stone River. Altho the weather the following morning was threatening, they had a chance to do a little birding before the scheduled hour.

The field trip began on Sunday morning in a downpour of rain, but still a large caravan of cars left the starting point in Nashville for Ray's Lake, fifteen miles northwest of Nashville. The rain continued to fall after the group's arrival at the lake, so to save time, Pres. Herndon called the meeting of the members in the morning instead of its scheduled hour in the afternoon. The meeting was held in the restaurant on the shore of the lake.

The business transacted at the directors' meeting on the previous day was reported to the members. The revised constitution was proposed and adopted, giving our Society a much more adaptable and useful constitution. It was moved and adopted that copies of the new constitution be printed and distributed to the members. The officers of the Society were unanimously re-elected. Several other minor items of business were discussed and transacted.

By the time that the meeting adjourned, the rain also had. A field trip began in earnest with people scattering out over the surrounding area. They later assembled again at noon for lunch, a group photograph, and compilation of the bird list, the last being called by Dr. George R. Mayfield. The observations made on this field trip are reported in the article on Spring Field Days in this issue. It was necessary for several of the visitors to leave after this on their return trips, but others continued the field day into the afternoon.

The Nashville Chapter and its president, Mr. Edward Schreiber, are to be congratulated for the enjoyable program of the annual meeting.

NOTES HERE AND THERE

GIFT TO THE UNIVERSITY OF TENNESSEE BIRD COLLECTION

Last fall the University of Tennessee received as a gift from Alfred Clebsch of Clarksville his personal collection of study skins of birds. The collection numbers 428 study skins representing 100 species of birds. It is characterized by excellent preparation and each specimen bears complete data. The specimens were nearly all collected in the immediate vicinity of Clarksville, Montgomery Co., Tennessee.

This gift marks the beginning of the University of Tennessee Museum of Zoology collection of bird skins, which it is hoped will eventually include all of the species of birds occurring within the State. The collection will be used for research studies and also for teaching. In addition to these skins, the museum has a small collection of mounted birds.—JOSEPH C. HOWELL, University of Tennessee, Knoxville, Tenn.

JAMISON MEMORIAL MEMBERSHIP

The Nashville Chapter of the T. O. S. has established a Memorial Membership in the Society to be awarded annually and for one year, in memory of Conrad H. Jamison, Jr., who was killed in Germany in February, 1945. It is intended that each year one of the younger members in the Nashville area be chosen as the Conrad Jamison Memorial Member, on the basis of his or her accomplishments and interest in the study of birds. The first to be elected is Mr. William Crouch, Richland Avenue, Nashville, who has been interested in birds and particularly in hawks for several years.—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tenn.

GEORGE K. DAVIS, 1870-1948

Professor Davis, long-time member and past-president (1944) of the Tennessee Ornithological Society, passed away at his home in Murfreesboro on March 5, 1948. He was born in Knox Co., Tenn., on Nov. 17, 1870 and received his education at the University of Chattanooga and at George Peabody College for Teachers at Nashville. Until his retirement **three years** ago, he had for many years been head of the Science Department at State Teacher's College at Murfreesboro. Becoming a member of the T. O. S. in 1931, he at once became quite active in bird study and whenever possible attended the Annual Meeting each spring at Nashville. He was a "good camper" and was a valued member of the field-week parties that studied the birds of Roan Mountain, Pickett Forest, Falls Creek State Park, and the Great Smokies National Park. Being a proficient botanist, he augmented the interest of such trips by his identification of the plant life encountered. For many years he was counted on to send in the Christmas Census list from Murfreesboro and he contributed numerous short items to **THE MIGRANT**. In spite of his advanced age—he reached 78—he maintained his always cheerful disposition and was ever a most agreeable companion to be associated with.—ALBERT F. GANIER.

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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

EDITORIAL

The annual meeting of the T. O. S. on this past May 16th was a successful meeting. The general spirit was that the T. O. S. was a good organization and therefore deserved to be made better.

One of the lesser items of business of the meeting may in the long run produce the most profit. President Herndon introduced an idea which had been brewing in his mind for a long time, the idea being a committee to inspire and direct coordinated research projects among the members of the T. O. S. There are many blank spaces in our knowledge of the birds of Tennessee; these gaps often can be filled in more easily by a number of people working together than they can be by a single person. President Herndon's plan was to appoint a committee which could point out the blank spaces, tell what should be done, and help to coordinate the work.

The members approved the idea, and soon after the meeting President Herndon appointed a Planning Committee of three: Dr. Joseph C. Howell, Chairman, University of Tennessee; Dr. Walter R. Spofford, Vanderbilt University; and Brother I. Vincent, Christian Brothers' College, Memphis.

The plan gives us a chance to discover many interesting and unknown things about birds. It will work and work well if each of us puts into effect the moral of the following fable, told by B. R. Chamberlain, president of the Carolina Bird Club, in "The Chat":

Once upon a time a pair of meadowlarks raised a brood in an oats field. In time the grain formed and ripened and the farmer came to look over his crop. "It's ready to harvest," he said. "In the morning I will get the neighbors to come over and help get it in." All excited, the young larks urged their parents to move to another field. "Not yet," said the parents, "not yet." Sure enough no one came to cut the oats. A few days later the farmer came again and looked over his field. "Oh," said he, "it's getting too ripe. In the morning I'll come and cut it myself." "Fly now," said the parent larks. "When a man depends upon himself for work he will do it."

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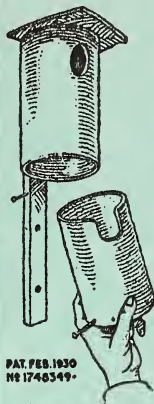
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THE ALTITUDINAL LIMITS OF CERTAIN BIRDS IN THE MOUNTAINS OF THE SOUTHEASTERN STATES

By HENRY M. STEVENSON and ARTHUR STUPKA

INTRODUCTION

Bird students in Tennessee may find within their State a variation in altitude exceeded in very few States east of the Mississippi River. Some of them have had the opportunity of working both in the highest mountains and in the river bottoms around Memphis. Naturally they have given some thought to the altitudinal distribution of various species of birds, and some have put their thoughts and experiences into writing. Such published records, both from Tennessee and other southeastern States, along with the unpublished data of the authors and a few other observers, provide the basis for the present paper.

For the most part, the species treated here are those which winter or summer to some extent in the mountains of Tennessee, North and South Carolina, Alabama, and Georgia, although occasionally comparisons are made with records farther north (Virginia, West Virginia, and Kentucky). It is believed that those elevations which are characteristic of a species' range in any one of the five States first mentioned are fairly typical of its range in the others, within the limits imposed by the extremes of land elevation in these States. (The fact that this generalization would not hold so well if it included Virginia and West Virginia is discussed below.)

Although some published observations indicate something of the altitudinal extremes reached by certain species during the spring and fall migration (or during post-nuptial wanderings), such data are relatively scant. Therefore this report does not deal with this phase of distribution. Also, those water birds which are absent from the mountains in the breeding season have been omitted.

Relying largely on sight records, the present work refers only to full species and employs binomial names throughout, even though an occasional reference is made to the known distribution of certain subspecies. Wherever possible the common names also denote full species rather than subspecies. This procedure is followed even when the subspecies may be safely assumed. Thus Cairn's Warbler (*Dendroica caerulescens cairnsii*) is discussed under the heading of "Black-throated Blue Warbler (*Dendroica caerulescens*)".

As is inevitably the case when sight records are investigated, some ap-

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pear to be acceptable whereas others must be rejected. Decisions of this sort are based on such factors as: (1) the likelihood of the occurrence at the particular time and place; (2) the reputation of the observer for caution and accuracy in field identification, as well as his total experience in the study of birds; (3) recognition on the part of the observer that a given record is unusual, and an accompanying statement that his observation was therefore carefully made.

Even though Brooks (1934 and later papers) and others have shown that a number of southern species occur higher in the mountains of Virginia and West Virginia than they have been recorded in States farther south, this interesting fact is still unrecognized by some students of birds. Consequently any known instances which exemplify this surprising phase of altitudinal distribution are pointed out herein. Conversely, it is well known and deemed normal that most southern species are found at progressively lower maximum altitudes as one proceeds northward, and that northern species are generally found at increasingly high minimum altitudes as they are traced southward. For most species which exemplify the latter and more generally recognized principle the known altitudinal limits in Virginia and West Virginia are omitted from this paper.

Although the writers are aware of the fact that altitude in itself may have no direct effect on bird distribution, no attempt is made in this paper to discuss the true factors governing distribution. Rather, a few of the highest and lowest records (both for summer and winter, in many cases) are simply stated for most species, along with the authority for each record. Wherever no statement regarding minimum altitude is made herein, it may be assumed that the species under discussion is found at that time of year virtually at sea level somewhere in the Southeast.

In the interest of brevity the name of the authority is omitted for certain records. Except in those instances where another authority is mentioned, the junior author is sole authority for such records in the Great Smoky Mountains; the senior author assumes the responsibility elsewhere (e.g., Emory, Virginia; Whitetop Mountain, Virginia). Such records have not been published before. Conservation of space is also achieved by the abbreviation of the names of states, in most cases, and by the use of the symbol " ' " for "feet".

Altitudinal extremes given in the ensuing list are fully understood by the writers to be merely the known extremes at this time. Future records (and unpublished records made previously) will doubtless extend many, if not most, of these known limits. This article will have served a valuable function if it stimulates further research on altitudinal limits, or the publication of records already in existence.

Scientific nomenclature herein follows that of the A.O.U. **Check List** (1931), except that the revised names acted upon by the present A.O.U. Committee through July, 1948, have been substituted for the earlier names of these species.

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ANNOTATED LIST

Great Blue Heron (*Ardea herodias*). Found near Highlands, N. C., in June by Miss Mary Crosby, and in July by Charlton Ogburn (Stevenson, 1941). These records, at altitudes of 3500 to 3800', are of interest in being the highest summer records available, although they do not necessarily indicate the breeding of the species at this altitude. In winter it is not known to range so high, but has been found at Blacksburg, Va., where the altitude is 2170' (the Handleys, 1946).

Green Heron (*Butorides virescens*). The senior author's June records of this species at Franklin, N. C., like those of Ogburn, may be taken to indicate breeding at an altitude of 2000' (Stevenson, 1941).

American Bittern (*Botaurus lentiginosus*). Evidence that this species may breed in the mountains at least as high as 2000' is based on Ogburn's record of one seen at Franklin, N. C., June 21, 1929 (Stevenson, 1941). It is quite surprising that the Bittern should winter (perhaps casually) equally as high in the mountains, yet it was found at Blacksburg, Va., December 24, 1945 (Handley, et al., 1946).

Turkey Vulture (*Cathartes aura*). That this species is unlimited in its altitudinal range in the Southeast in summer is evidenced by records of birds soaring over the top of Mt. Michell, N. C., the peak of which is 6684' above sea level (Burleigh, 1941). Other observers are in agreement in finding it at the tops of the highest mountains. As to actual nests, it is not likely that they occur above 4000' in the Smokies, and the same may be true of other southern mountains. This vulture has been recorded as high as 2400' in winter near Emory, Va., and is said to be "rare in winter" in the mountains of North Carolina (Pearson, Brimley, & Brimley, 1942).

Black Vulture (*Coragyps atratus*). In the vicinity of Emory, Virginia, where the nearest mountains rise to about 2400', this vulture is found occasionally in summer and rather commonly in winter. Murray (1931) gives a record at a comparable altitude, near Mountain City, Tenn., August 28, 1930, which may be indicative of its summering there. Later (1933), however, he speaks of having found its nest "at an altitude of over 3000 feet" near Lexington, Va. In West Virginia, Handley (1931) saw it at 2100' near Lewisburg, July 3, 1930.

Sharp-shinned Hawk (*Accipiter striatus*). Burleigh (1941) reports this bird above 6000' on Mt. Mitchell as early in summer as July 31, indicating that it may have nested nearby. Somewhat earlier in summer it has been

found at altitudes of 3500' (Wetmore, 1941) and 3700' (Stevenson, 1941) in the same State. It appears that the highest winter records are at similar altitudes, at Boone, N. C. (Brown, 1914 & 1916).

Cooper's Hawk (*Accipiter cooperii*). One was seen near Highlands, N.C., by the senior writer (1941) at an altitude of 3600', June 17, 1937, but Murray (1937) and Wetmore collected one at about 5500' on Mt. Rogers, Va., June 3, 1937. It has been found in winter as high as 2700' at Windom, N. C. (Hutchins & the Hughes, 1945), and 2200' near Emory, Va.¹

Red-tailed Hawk (*Buteo jamaicensis*). All observers agree that this species is practically unlimited in altitudinal range in summer, and Burleigh (1941) implies that it may be found at any time of the year as high as 6000' on Mt. Mitchell.

Red-shouldered Hawk (*Buteo lineatus*). Known to summer at least as high as 1650' at Pine Mountain, Ga. (Stevenson, 1941), and at about the same altitude near Mentone, Ala., where it was found in June, 1943. Curiously enough, the highest winter records exceed the altitudes mentioned above: Blacksburg, Va., 2170' (the Handleys, 1946); Shenandoah National Park, Va., 2800' or above (Stevens & Scott, 1947).

Broad-winged Hawk (*Buteo platypterus*). Several observers have found this hawk around Highlands, N. C., up to at least 3900' in summer, but in the Great Smokies, at least, it ranges up to 6500' or above.

Golden Eagle (*Aquila chrysaetos*). Now quite rare, this eagle may still nest in suitable regions from the highest elevations down to about 1500'. A fairly recent summer record is that of two, seen together, in the Great Smokies, June 16, 1938, at 4886' (Ganier & Clebsch, 1938).

Marsh Hawk (*Circus cyaneus*). Occurs rarely in winter at Blacksburg, Va., at 2170' (the Handleys, 1946). It is also known to winter locally in the Great Smokies as high as 1800'.

Peregrine Falcon (*Falco peregrinus*). Even though most nesting records and many winter records are referable to mountainous country, there is no evidence that this falcon is restricted in its vertical distribution at any time of the year.

Sparrow Hawk (*Falco sparverius*). James T. Tanner and the senior author saw one on Little Roan Mountain, June 28, 1946, at an altitude of 5700', but no other summer records in the Southeast are above 4500', at which altitude Murray (1936) reports it between Whitetop and Mt. Rogers, Va. In winter it is known to occur regularly up to 2200' in southeastern Virginia, but one was seen in the Great Smokies by Franklin McCamey at 5700', January 5, 1948.

Ruffed Grouse (*Bonasa umbellus*). Virtually unlimited upward, and found at about the same altitudes in summer and winter. Of recent breeding records, one in Stephens County, Ga., is at a rather low altitude (Odum,

¹ James T. Tanner has seen the species above 4000' near Elizabethton, Tenn., on February 25, 1946, but it may have been migrating northward this late in winter.

1945b). Toccoa, the County seat, has an elevation of 1200', presumably about the same as the altitude at this nesting site. The eastward range of the species in North Carolina, as outlined by Pearson, Brimley, and Brimley (1942) probably carries it down to similar levels.

Bob-white (*Colinus virginianus*). In Virginia, Murray (1936 & 1937) has found the Quail in summer as high as 5000' on Whitetop Mountain and Mt. Rogers, and it reaches 6300' at that season in the Great Smokies. Elsewhere it has been found between 4000 and 4500' (Sprunt, 1935); Ganier & Clebsch, 1946); (Stevenson, 1941). It is problematical whether there is any appreciable downward migration in fall and winter. The highest winter record in the Great Smokies is Fleetwood's, at 5188', December 13, 1934, but there appear to be no other winter records above 2500'.

Turkey (*Meleagris gallopavo*). Evidence that this species is of almost unlimited altitudinal range is obtained from the record of its occurrence at 6100' in the Great Smokies, June 27, 1937, (Wetmore, 1939).

King Rail (*Rallus elegans*). Louis Rice supplied evidence of its breeding up to at least 3950' in the southern mountains by bringing to the senior author the wing of one of these marsh birds which had been killed at his home near Highlands, N. C. He stated that he had seen others of its kind shortly before, about June, 1937 (Stevenson, 1941).

Black Rail (*Laterallus jamaicensis*). Three summer records in the Southeast are at altitudes of 2000' or slightly higher. Ogburn reported it at Franklin, N. C., June 21, 1929 (Stevenson, 1941); and Addy (1940), near Blacksburg Va., collected one which "by all indications was not nesting." Stevenson (1947b) flushed one of these small rails at Abingdon, Va., June 27, 1946.

Killdeer (*Charadrius vociferus*). Breeds in the high pastures around Emory, Va., up to about 2300', but its upward limits in other parts of the Southeast are not well known. It also winters around Emory to some extent at virtually the same maximum altitude (Stevenson, 1946).

Woodcock (*Philohela minor*). May occasionally breed at the highest altitudes in the Southeast. One was collected at 5000' in the Great Smokies, June 19, 1937 (Wetmore, 1939); and Tanner (1942) and others found its nest on Roan Mountain at 6000'. Murray (1937) and Wetmore flushed three at about 5500' on Mt. Rogers, Va. There seem to be no published winter records at altitudes higher than 1000'.

Wilson's Snipe (*Capella gallinago*). Records at two localities in southwestern Virginia indicate the wintering of this species as high as 2100': Emory (Stevenson, 1946) and Blacksburg (the Handleys, 1946). It may be expected at similar or somewhat higher altitudes in other southern States, wherever marshy conditions occur.

Spotted Sandpiper (*Actitis macularia*). An unusually high breeding record exists for Highlands, N. C. (3800'), where a pair raised young in the summer of 1944 (Howell, Sargent, & Wall, 1947). Elsewhere it breeds up to 2000' or more near Emory, Va., and near Asheville, N. C., Burleigh having found young just out of the nest at the latter place, June 20, 1932 (Pearson, Brimley, & Brimley, 1942).

Mourning Dove (*Zenaidura macroura*). In summer this species has been found up to 4550' by Fleetwood in the Great Smokies; 4100' near Highlands, N. C. (Stevenson, 1941); and about 3500' in Highland County, Va. (Murray, 1938). The highest winter records are at somewhat lower elevations: 2700' at Windom, N. C. (the Hughes & Hutchins, 1947), and 2300' near Emory, Va.

Yellow-billed Cuckoo (*Coccyzus americanus*). It is surprising that this southern species would summer as high as 4800' near Boone, N. C., where it was collected on July 11 and 12, 1939 (Wetmore, 1941), yet fail to nest around Highlands even at much lower altitudes (Stevenson, 1941).

Black-billed Cuckoo (*Coccyzus erythrophthalmus*). A summer record at a high altitude is that of one collected on Elk Knob, near Boone, N. C., at 5100', July 17, 1939 (Wetmore, 1941). Tanner writes that he saw two above 4000' on Unaka Mountain, near Erwin, Tenn., June 8, 1941. In the Great Smokies, Trautman has detected it as high as 5800', June 22, 1940. In North Carolina it breeds near sea level.

Barn Owl (*Tyto alba*). Although referred to as a "rare winter resident" at Blacksburg, Va. (2170') (the Handleys, 1946), this owl apparently has not been recorded above 1500' by any other observers in the Southeast.

Screech Owl (*Otus asio*). Seen in summer in the town of Highlands, N. C., where the altitude is slightly above 3800' (Stevenson, 1941). Stupka (1946) gives 3500' as its upward limit in the Great Smokies. Wherever found, the species will doubtless prove a permanent resident.

Horned Owl (*Bubo virginianus*). Although Dr. Earl Henry has found this owl at 6000' in the Great Smokies, December 18, 1938, and Roy Brown (1918) found it at Boone, N. C. (3300'), in December, 1917, early summer records at the higher altitudes seem to be lacking. Doubtless it will prove resident at most elevations at which it is recorded.

Barred Owl (*Strix varia*). Wetmore (1939) and other observers have found this species as high as 5700' on Roan Mountain in summer, and its summer range reaches 6400' in the Great Smokies. Other records indicate that it winters to some extent at high altitudes. Burleigh (1941) recorded one near the top of Mt. Mitchell (about 6600'), January 4, 1933. Although such a record may be very unusual, it has been found in winter near Boone, N. C., at 3400' or above (Crook, 1935).

Saw-whet Owl (*Aegolius acadica*). Stupka (1946) and others have found this little owl in recent summers at altitudes of 5000' or above in the Great Smoky Mountains, where it will doubtless prove resident.

Chuck-will's-widow (*Caprimulgus carolinensis*). Odum (1945a) and Burleigh found this bird up to at least 1600' in Pickens County, Ga., May 28, 1945. One was reported at Greeneville, Tenn. (above 1500'), by Miss Willie Ruth Reed, June 7, 1941 (T.O.S. members, 1941). A pair was flushed on a mountain near Guntersville, Ala., at about 1300', June 26, 1945; and natives speak of its occurrence on Monte Sano (1400'), near Huntsville.

Whip-poor-will (*Caprimulgus vociferus*). Reinke's record at 4100' near Highlands, N. C., apparently establishes the upward range of this goatsucker (Stevenson, 1941), and its other extreme in the breeding season may be indicated by records in western Tennessee at approximately 500' (Coffey,

1944; Calhoun, 1941). Farther south it occurs in summer at altitudes of about 1000' near Atlanta, Ga. (Griffin, 1941).

Nighthawk (*Chordeiles minor*). A very surprising record for early summer is that of one seen at 3500' in Highland County, Va., June 4-11, 1938 (Murray, 1938). It would seem unlikely that even so late a spring migrant as this species would have lingered well into June, and over a period of one week, unless breeding or summering at this site. Other summer records probably do not exceed 2500'.

Chimney Swift (*Chaetura pelagica*). Found at nearly all altitudes in summer, although Burleigh's (1941) record at the top of Mt. Mitchell, May 23, 1930, may not be late enough to represent breeding near that point. This species, however, may be found regularly in June above the summits of Roan Mountain (6300') and the highest peaks of the Great Smokies.

Ruby-throated Hummingbird (*Archilochus colubris*). Also found in summer at practically all altitudes. Burleigh (1941) found it up to 5000' on Mt. Mitchell in June, and Ganier and Clebsch (1946) encountered it at least as high in the Unicois. Several observers have seen Hummingbirds above 6000' on Roan Mountain in late June. In the Great Smokies they have been found at 6500' on Mt. Le Conte and Mt. Guyot.

Belted Kingfisher (*Megaceryle alcyon*). Found to be of regular summer occurrence at Highlands, N. C., up to 3800' (Stevenson, 1941), and to 3500' in Highland County, Va. (Murray, 1938). At the former locality a nesting burrow was found. Apparently it does not winter quite so high in the mountains. The highest records available for that season are at altitudes of about 2200': near Asheville, N. C. (Wallace, 1936); and around Blacksburg (the Handleys, 1946) and Emory, Va. In the Great Smokies, however, it winters at 2500' near Elkmont, Tenn.

Flicker (*Colaptes auratus*). Summers up to 5000' at three localities in the Southeast: Great Smokies (Wetmore, 1939), Unicoi Mountains (Ganier & Clebsch, 1946), and Whitetop Mountain, Va. (Murray, 1936). On Roan Mountain, however, Ganier (1936) found the species at altitudes of about 6000' in June, 1936. In winter Flickers have been found as high in the mountains as 2800' in the Shenandoah National Park, Va., December 28, 1946 (Stevens & Scott, 1947); and both Brown (1914) and Crook (1935) have seen them in December at elevations of about 3400' near Boone, N. C.

Pileated Woodpecker (*Hylatomus pileatus*). Ganier and Clebsch (1946) found this large woodpecker up to 4000' or higher in the Unicois, but they have shown (1938) that it may reach 5000' in the Great Smokies. Stevenson (1941) recorded it as high at 4100' near Highlands, N. C. Probably it spends the entire year at such altitudes.

Red-bellied Woodpecker (*Centurus carolinus*). The upward limit of this species in the mountains of Georgia may be marked by a specimen collected at 2600' by Denton (1947) and Burleigh, on Yonah Mountain, White County. Present evidence indicates that it ranges somewhat higher in the mountains as one proceeds farther north: Brooks (1934) has found it upward of 3500' in West Virginia, and Stevens and Scott (1947) recorded it at 2800' or above in the Shenandoah National Park, Va., December 28, 1946. Like most other

woodpeckers, it is probably resident at all elevations where found.

Red-headed Woodpecker (*Melanerpes erythrocephalus*). One of the most surprising of occurrences during the senior writer's field work in the Blue Ridge Mountains of North Carolina was the discovery of a few of these birds on Billy Cabin Ridge, near Highlands, at an altitude of 4000', June 22, 1937. They were not found there on later trips in 1937 and 1941, nor was the species recorded in the town of Highlands or at Franklin, despite the relatively low altitude of 2100' at the latter town (Stevenson, 1941). The second highest records are at 2900' at Shady Valley, Tenn., June 8, 1934 (Ganier & Tyler, 1934), and June 5, 1937 (Wetmore, 1939). In certain winters the species is common at Blacksburg, Va., where the altitude is 2170' (the Handleys, 1946), but few published winter records may be found for the higher altitudes. Brown (1914), however, found three at Boone, N. C., at 3000' or above, December 24, 1913.

Yellow-bellied Sapsucker (*Sphyrapicus varius*). Recorded in summer up to 5100' on Rocky Bald, 12 miles west of Franklin, N. C. (Wetmore, 1941), and at a similar maximum altitude in the Unicois (Ganier & Clebsch, 1946). Exceptional records in the Great Smokies are at elevations of 5800' (Trautman) and 6300'. Its downward limit at this season seems to be 3500' near Highlands, N. C. (Stevenson, 1941). The Sapsucker has been recorded in winter as high as 2200' near Emory, Va. A record at 6000' in the Great Smokies, December 22, 1940, is probably exceptional.

Hairy Woodpecker (*Dendrocopos villosus*). Probably of unrestricted altitudinal range in the South. Burleigh (1941) found a nest at 5700' on Mt. Mitchell, May 7, 1931, and indicates that the species may be found near the top (6600' or above) at any time of the year. It may also be encountered the year 'round about the top of Clingman's Dome (6640').

Downy Woodpecker (*Dendrocopos pubescens*). Burleigh (1941) reports the casual summer occurrence of this species near the top of Mt. Mitchell, and has seen it at 6000' as late as December 11, 1930. His implication is, however, that it does not spend the entire winter nor breed at such high altitudes. On Roan Mountain, Ganier (1936) records a pair at 5600' and a single individual at 5900', June, 1936; and Wetmore (1939) states that one was collected in the Great Smokies at 6300', June 25, 1937. It may be expected in winter up to 5000' or above, having been seen at 5700' in the Great Smokies, December 21, 1941.

Red-cockaded Woodpecker (*Dendrocopos borealis*). Oddly enough, this typically southern species extends its range northward into Tennessee and Kentucky chiefly in the mountains (although there are no records at extremely high elevations). This coincidence is attributable, in part, to the greater amount of pine woods in these mountains than in the nearby lowlands. The highest records for Tennessee are at Beersheba (1900') and Jamestown (1700') (Mayfield, 1932); and on Andy McCully Ridge, near Rabbit Creek, 2210' (Fleetwood, 1936). Mengel (1940) found the species on the Cumberland Plateau in Laurel County, Ky., July 2-7, 1939, but does not state the altitude for these records.

Kingbird (*Tyrannus tyrannus*). Records by several independent observers of the summering of this flycatcher along the Little Tennessee River, at Franklin, N. C. (2000'), may indicate its maximum breeding altitude in the Blue Ridge Mountains. Farther north, however, it occurs in all suitable habitats around Emory, Va., up to about 2400'.

Crested Flycatcher (*Myiarchus crinitus*). Summer records for the present species are as high as 3900' in the Great Smokies (Wetmore, 1941); 4000' in the Unicois (Ganier & Clebsch, 1946); and 4100' in the Blue Ridge Mountains of North Carolina (Stevenson, 1941). Tanner writes of seeing several individuals above 4000' on Unaka Mountain (near Erwin, Tenn.), but does not indicate the exact maximum altitude.

Phoebe (*Sayornis phoebe*). Among the highest summer records are the following: two seen by members of the T.O.S. at 5000' or above in the Great Smokies, June, 1938 (Ganier & Clebsch, 1938); one in the same mountains seen by Trautman at 4700', June 19, 1940; and one collected on Elk Knob, near Boone, N. C., at 4800' in mid-July, 1939 (Wetmore, 1941). As the breeding season begins very early, these June and July records may represent wanderers from lower elevations. Its minimum breeding altitude depends largely on latitude. Breeding records below 500' are few in north Alabama, but it breeds at 250' in west Tennessee (Ganier) and probably breeds near sea level in North Carolina and Virginia. Although its maximum winter range around Emory, Va., is about 2300', two were seen at Windom, N. C. (2700'), December 21, 1946 (the Hughes & Hutchins, 1947).

Acadian Flycatcher (*Empidonax virescens*). Recorded as high in summer as 3600' near Shady Valley, Tenn. (Wetmore, 1939), and 3800' near Highlands, N. C. (Stevenson, 1941). Whereas the normal upward limit in the Smokies is near 4000', Trautman found one at 5000' or above, June 22, 1940. Even as far north as West Virginia this species ranges up to 3400' (Brooks, 1945).

Alder Flycatcher (*Empidonax traillii*). As this species is just beginning to extend its breeding range from the North into the southeastern States, it will be interesting to note the altitudes at which it is discovered. Brooks (1945) records its only breeding station in West Virginia at 3400'. More recently it was found apparently breeding at Abingdon, Va., at about 2000' (Stevenson, 1947a & b). Although Tanner and Stevenson searched for it diligently on the alder balds of Little Roan Mountain (6000'), June 28, 1946, it was not to be found there.

Least Flycatcher (*Empidonax minimus*). The collecting of one on Elk Knob, near Boone, N. C., at 4800', July 16, 1939 (Wetmore, 1941), presumably marks the upward limit of this species' breeding range. Stupka has found them in summer in the Great Smokies ranging from 4800' down to 1300' and Stevenson noted a few at Fontana, N. C. (1800').

Wood Pewee (*Contopus virens*). This high-ranging flycatcher has been recorded in June at 5000' in the Great Smokies by Ganier & Clebsch (1938), and Murray (1936) found it at 5500' on Whitetop Mountain, Va., in early June, 1936. The highest records for North Carolina seem to be somewhat

lower: 4100' near Hayesville (Wetmore, 1941) and 4200' near Highlands (Stevenson, 1941).¹

Olive-sided Flycatcher (*Nuttallornis borealis*). Little has been published on the altitudinal range of this rare breeding bird in the Southern mountains. Ganier and Clebsch (1938) indicate its summer range in the Great Smokies to be in the balsam-spruce forests from approximately 4500 to 6000'. Some of the supposed summer records at lower altitudes are not wholly satisfactory.

Horned Lark (*Eremophila alpestris*). Although it is usually a bird of the plains and valleys, the Lark occasionally occurs at high altitudes both in summer and winter. It was found on the bald of Little Roan Mountain (5800') by Tyler and Lyle, June, 1935; and the following year one pair and one immature bird were seen at the same spot in June (Ganier, 1936). More recently, Tanner writes that he has seen the species there in summer. Murray (1938) reports a pair at about 4000' in Highland County, Va., June 9, 1938. Its minimum altitude in summer is about 250' near Memphis, or perhaps at or near sea level in North Carolina and Virginia. Burleigh (1941) saw a flock of about 20 on the top of Mt. Mitchell, January 24, 1930, but it may not winter regularly above 2500'.

Rough-winged Swallow (*Stelgidopteryx ruficollis*). Found regularly up to 4000' at Highlands, N. C., where one was seen flying over Mt. Satulah (4560'), June 16, 1941 (Stevenson, 1941). Fleetwood saw one at 4900' in the Great Smokies, June 5, 1935, but there appears to be no other records above 2700'.

Barn Swallow (*Hirundo rustica*). Breeds in the mountain valleys at least as high as 2850' at Shady Valley, Tenn. (Ganier & Tyler, 1934), and 2500' in Nelson County, Va. (Freer, 1936). Murray (1938), however, found the species to be common at 3000' and present at 4000' in Highland County, Va. Its minimum breeding altitude for most of the southern states is at sea level, but it may not necessarily be found nesting at all altitudes between the two extremes.

Purple Martin (*Progne subis*). This large swallow has been found rarely in summer at Franklin, N. C., at 2000' (Stevenson, 1941), and at Emory, Va., at about the same altitude. Wetmore (1939) mentions one seen at Shady Valley, Tenn. (2900') June 4, 1937.

Blue Jay (*Cyanocitta cristata*). Burleigh (1941) states that the Blue Jay is not known to breed above 4500' on Mt. Mitchell, but there is definite evidence of its breeding in the Unicois up to 5000' (Ganier & Clebsch, 1946). In the Great Smokies, moreover, there are two summer records as high as 5800' and 6000', and a number of ornithologists have found it up to 6000' or higher on Roan Mountain in June. A record of Blue Jays seen "on top" of Whitetop Mountain, Va., evidently was made well above 5000' (Murray, 1936), and the senior writer heard one there July 16, 1946. There appear to be few winter records comparable to those made in summer. One

¹ Although Burleigh (1941) found the species near the top of Mt. Mitchell occasionally from July 31 to September 11, he does not imply that it breeds at such altitudes.

was seen at 5000' in the Great Smokies, December 21, 1936. Roy Brown found the species at Boone, N. C. (3300'), and Scott (1947) speaks of two seen at 4250' (at least) in Highland County, Va., December 29, 1946.

Raven (*Corvus corax*). Probably unrestricted upward except by lack of suitable nesting sites, but may not occur much lower than 3000' in summer, at which altitude Wetmore (1939) reports one on Big Frog Mountain, Tenn., July 13, 1937. Formerly the Raven nested in the mountains of north Alabama at altitudes as low as 1000' (Howell, 1928). The lowest winter record is at 1300' near Gatlinburg, Tenn., except for occasional records on the coast of the Carolinas.

Crow (*Corvus brachyrhynchos*). Records for the Blue Ridge Mountains of North Carolina (Stevenson, 1941) do not show that the Crow ranges higher than 3100' in summer; and Ganier and Clebsch (1946) failed to find it above 3500' in the Unicois. Apparently its upward breeding limit in the Great Smokies is about 3000'. Farther north, however, three investigators have seen it up to 4500 or 5000' on Whitetop Mountain, Va., and Tanner has found it about as high on Roan Mountain. In winter the Crow has been found commonly at Boone, N. C. (3300' or above), on the Christmas bird counts of Roy Brown and Compton Crook. Ernest Edwards and the Stevensons encountered it at about 4000' on the lower slopes of Mt. Rogers, Va., December 30, 1944 (Edwards, et al., 1945).

Black-capped Chickadee (*Parus atricapillus*). Ranges downward from the highest mountain tops in the South to 3500' or below. Numerous observers have encountered this chickadee at 6600' or higher, but few have identified it below 5000'. In the Great Smokies, however, Tanner has found it at 3500' and Bellrose (1938) at 3800'.¹ It is only natural that the species should occur as low as 4000' farther north, as in Highland County, Va. (Murray, 1938). Burleigh (1941) considers this bird to be of only accidental occurrence on Mt. Mitchell since the cutting of the timber. It is not known to what extent the Black-cap may descend into the valleys in winter, as most of the Christmas census records of it in the South obviously refer to *P. carolinensis*.

Carolina Chickadee (*Parus carolinensis*). One may not safely relegate all chickadees seen at high altitudes to *atricapillus*, for the present species reaches at least 5000' in some places in the South. Wetmore (1941) collected one 12 miles west of Franklin, N. C., at 5100', and it reaches 5400' in that State on Mt. Pisgah (July 20, 1937). At Highlands it was once found at 4900', although this record was overlooked in the preparation of the published list for that region (Stevenson, 1941). It seems likely that this species will be found at similar maximum altitudes in winter.

Tufted Titmouse (*Parus bicolor*). The maximum altitudinal range for this species is about the same as that for the Carolina Chickadee. In the Great Smokies it occurs regularly at 5600', but other records are considerably lower. Wetmore (1941) reports having taken one 12 miles west of

¹ Records made at even lower altitudes in the summer of 1948 (3000', Stevenson; 2900', Tanner) are probably referable to this species, but the diagnostic two-note whistle was not given on either occasion, thus making a positive identification quite difficult.

Franklin, N. C., at 5100', and Ganier and Clebsch (1944) also found it at this altitude in the Unicois. Murray (1936) found it at 5000' on Whitetop Mountain, Va., and the senior author saw one at 4900' on the same mountain, July 7, 1946. It probably remains at these altitudes all winter, as it has definitely been recorded above 4000' at that season.

White-breasted Nuthatch (*Sitta carolinensis*). Three records agree well on the maximum altitude at which this species may be found in summer: Wetmore (1939) found it up to 3800' near Shady Valley; and (1941) reported another near Hayesville, N. C., at 4100'; Stevenson (1941) saw it as high as 4000' near Highlands. Ganier and Clebsch (1946), however, found it up to 5200' in the Unicois; and in Virginia, Murray (1936) has once seen the species as high as 5000' on Whitetop Mountain (June 2, 1936). In winter Tanner has encountered this nuthatch at 4000' or above on Unaka Mountain (near Erwin, Tenn.,) February 25, 1946; and it occurs regularly up to 5600' in the Great Smokies at all seasons of the year.

Red-breasted Nuthatch (*Sitta canadensis*). Apparently unrestricted upward in the nesting season, and found as low as 3700' around Highlands, N. C. (Stevenson, 1941). Even in winter Burleigh (1941) has found them in certain years at the very top of Mt. Mitchell. At the same season the species has often been reported at sea level.

Brown-headed Nuthatch (*Sitta pusilla*). There appears to be no published information on the upward limits of this little nuthatch, therefore it may be well to record its occurrence on mountains around Birmingham, Ala., at elevations of 1300' or higher. There it may be found the year around. Its westward limit in North Carolina (e.g., Burke Co.) (Pearson, Brimley, & Brimley, 1942) probably carries it up to similar altitudes.

Brown Creeper (*Certhia familiaris*). Again with this species, the evidence is that it is not restricted upward in the breeding season. It ranges downward in the Highlands, N. C., region to 3600'. A record at 2500' or less in the Great Smokies, June, 1938 (Ganier & Clebsch, 1938) is low enough to require a qualifying statement, as no other summer records in these mountains are at elevations lower than 3500'. Most individuals winter at much lower altitudes. Burleigh (1941) did not find it above 4500' at that season, but Batchelder (1886) reported one at 6223' on Jones's Knob, N. C., December 30, 1885, and it winters regularly up to 6000' or above in the Smokies. Brown (1914 & 1916) reports its wintering at about 3300' near Boone, N. C. Other published records are below 3000'.

House Wren (*Troglodytes aedon*). Within its geographical range, this little wren may be found at almost any altitude in the Southeast. Two singing birds were heard on Whitetop Mountain, Va., July 16, 1946, at 5100 and 5300'. Previously Murray (1936 & 1937) had found it at 4500' on the same mountain and at 5000' on Mt. Rogers. On the other hand it breeds near sea level in Virginia and North Carolina. A December record at Blacksburg, Va. (the Handleys, 1946), provides evidence that the House Wren occasionally winters above 2000'. Another was seen at 1500' near Gatlinburg, Tenn., December 20 and 21, 1942.

Winter Wren (*Troglodytes troglodytes*). Breeds from the tops of the

highest southern mountains to altitudes of 4000' or below. Howell and Burleigh found it near Highlands, N. C., at the very low altitude of 3700', but it must be very scarce there (Stevenson, 1941). Wetmore (1939) and others saw one at an elevation of 3600' on Snake Den Mountain, Tenn. Most winter records are at lower altitudes, although Stupka has stated that some individuals remain "at . . . high elevations throughout December" (T.O.S. members, 1942). Two of these exceptional records were made at elevations of 6300 and 6500', on December 17, 1939, and December 30, 1941, respectively. Burleigh (1941) reports the species absent from the top of Mt. Mitchell in mid-winter. The highest records (except in the Smokies) seem to be near 3400'; one found on a Christmas bird count near Boone, N. C., by Crook (1935); another seen at Balsam Gap, N. C. (Batchelder, 1886).

Bewick's Wren (*Thryomanes bewickii*). There are several published records of this wren's breeding at high altitudes in the Southeast. Murray (1936) collected one on Whitetop Mountain, Va., at 4500', June 4, 1936; and Wetmore (1941) records the collecting of specimens in summer near Boone, N. C., at 4500 and 4800', and near Creston at 4600'. Raymond Fleetwood's journal indicates that he heard one singing at 5000' in the Great Smokies July, 1934, and June, 1935. Even in West Virginia it is reported to nest as high as 4000' (Brooks, 1942). Farther southwest it may be found in summer at altitudes of 200' or lower. This wren has been found wintering at Blacksburg, Va., at altitudes of about 2100' (the Handleys, 1946), and Batchelder (1886) found a few at comparable altitudes around Asheville, N. C., in December.

Carolina Wren (*Thryothorus ludovicianus*). Wetmore (1941) cites a summer record near Creston, N.C., at 4300', and a number of observers have seen it as high as 4000' around Highlands. Speaking for the Great Smokies, Stupka states that it is "not known to nest above 4000 feet" (T.O.S. members, 1942).¹ The highest winter records are in the Great Smokies: 5280' on January 26, 1935 (Fleetwood), and 5040' on November 28, 1944. It has been reported up to 3500' at Boone, N. C., by both Roy Brown and Compton Crook.

Mockingbird (*Mimus polyglottos*) Most of the higher summer records for this species are just above 2000'. Both Stevenson (1941) and Wetmore (1941) noted it at Franklin, N. C. (2000'), and it proved rather common near Emory, Va., up to 2200'. Mrs. Grinnell saw one at Skyland, N. C. (2250'), June 10, 1942 (Brimley & Grey, 1942). Mrs. W. G. Hartzog, however, saw one in the summer of 1944 at the high elevation of 3300', at Boone, N. C. (Smith, 1945). Burwell (1942) also mentions one killed at this locality, but does not indicate the time of year. Around Emory, Va., it may be seen throughout the year, and it has been listed on Christmas bird counts at a comparable altitude at Brevard, N. C. (the Orrs, 1939).

Catbird (*Dumetella carolinensis*.) The highest summer records are near 6000': Great Smokies (Wetmore, 1939); Mt. Mitchell (Burleigh, 1941); and

¹Although two independent observers have found it well above 6000' in July and August, both agree that it does not nest at such an elevation (Burleigh, 1941; Stupka).

Roan Mountain (Ganier, 1936; Tanner & Stevenson). It reaches 6300' on Forney Ridge, in the Great Smokies; and Stevenson found it at 6400' on Mt. LeConte, June 9, 1948.

Brown Thrasher (*Toxostoma rufum*). The normal upward limit in the breeding season is probably about 5000', but exceptional records are much higher. Tanner and Stevenson saw one on Roan Mountain at 6000', June 29, 1946; and Burleigh (1941) has seen a few as high as 6200' on Mt. Mitchell. Murray (1937) and Wetmore found one at 5700' on Mt. Rogers, Va. Otherwise the highest records are at about 5000' in the Unicois (Ganier & Clebsch, 1946) and 4500' near Highlands, N. C. (Stevenson, 1941). There are two exceptionally high winter records: one seen on Brasstown Bald (northern Georgia), at 4500' November 24, 1945 (Burleigh, 1945); and one in Pocahontas County, W. Va., at 3400' (Brooks, 1945). Ordinarily it probably does not winter much above 2200', at which altitude it was found by Burleigh at Bent Creek, N. C. (Pearson, Brimley, & Brimley, 1942); and by the Orrs (1939) at Brevard.

Robin (*Turdus migratorius*). There is no evidence that this hardy thrush recognizes any altitudinal limits in the breeding season, as it occurs from the tops of the highest mountains down to very near sea level. Even in winter a few records are at high altitudes. It winters regularly up to 5200' in the Great Smokies, and one small flock was seen at 6000', December 28, 1947. Scott (1947) and Stevens encountered it at 4250' or above in Highland County, Va., December 29, 1946, and there are two records at about 3500': near Boone, N. C. (Crook, 1935); in the Shenandoah National Park, Va. (Stevens & Scott, 1947).

Wood Thrush (*Hylocichla mustelina*). Wetmore (1939) reports its summering up to 5100' in the Great Smokies; and Burleigh (1941) gives 5000' as the upward breeding limit for Mt. Mitchell, as do Ganier and Clebsch (1946) for the Unicois. Tanner and Stevenson heard it singing at about the same altitude on Roan Mountain, June 28, 1946. One record in the Great Smokies (June 19, 1943) is at an elevation of 5400'.

Hermit Thrush (*Hylocichla guttata*). The winter range of this species may rarely reach 3000', at least in the Great Smokies.¹ Stevens and Scott (1947) saw one in the Shenandoah National Park, Va., at 2800'; and numbers have been reported at Windom, N. C. (2700') (Hutchins & the Hughes, 1945).

Veery (*Hylocichla fuscescens*). Ranges in the breeding season from about 6500' in the Great Smokies and 6200' on Roan Mountain down to about 3200' near West Jefferson, N. C. (Wetmore, 1941), as well as on Brasstown Bald, Ga. (Burleigh, 1927). One seen in the Smokies at 2800', June 4, 1937, is unusual, but the date is late enough to denote its summering at that point.

Bluebird (*Siala sialis*). The occasional summering of this species at high altitudes is evidenced by the record of Ganier (1936) and others who found its nest on Little Roan Mountain at 5800', June 25, 1936. Tanner and Stevenson saw a Bluebird at 5600' on the same mountain, June 28, 1946. Ganier

¹ One seen in these mountains at 4900', December 4, 1939, may have been a late fall migrant.

and Clebsch (1938) report the presence of two in the Great Smokies at 4500' or above, June, 1938. Even in Virginia, Murray (1936) has found it up to 5500' on Whitetop Mountain. Occasional winter records in the Great Smokies are at altitudes of 5200 (December 19, 1937) and 5000', but other records are much lower. Brown and Crook found the species at about 3300-3700', near Boone, N. C.

Blue-gray Gnatcatcher (*Poliophtila caerulea*). This species evidently breeds in the mountains at least as high as 2300' at Emory, Va., and 2100' at Franklin, N. C. Oddly enough, it ranges higher in the mountains as one proceeds northward; Brooks (1945) refers to its breeding at nearly 4000' in West Virginia.

Golden-crowned Kinglet (*Regulus satrapa*). Recorded in the breeding season from the highest altitudes in the Southeast down to about 3700', at which altitude it has been seen near Highlands, N. C. (Stevenson, 1941), and at Cone's Lake (Blowing Rock), N. C. (Murray, 1946a). Inasmuch as Burleigh (1941) has found this kinglet all winter on Mt. Mitchell, there is no evidence that it is restricted by altitude at that season.

Ruby-crowned Kinglet (*Regulus calendula*). Winter records at Blacksburgs, Va. (the Handleys, 1946), and Asheville, N. C. (Wallace, 1936), probably are at altitudes of 2000' or more. The only winter record at Emory, Va., was at 1700' (Stevenson, 1946).

Cedar Waxwing (*Bombycilla cedrorum*). Breeds from the highest altitudes in the South down to about 300' above sea level in North Carolina (Pearson, Brimley, & Brimley, 1942).

Shrike (*Lanius ludovicianus*). In southwestern Virginia, at least, this species is a permanent resident up to altitudes of 2000' or slightly higher. In North Carolina it has been found at approximately 2800' in summer at Waynesville, and at 2200' in winter at Asheville (Pearson, Brimley, & Brimley, 1942).

Starling (*Sturnus vulgaris*). The highest summer records for the Southeast are those reported by Murray (1936 & 1937) for Whitetop Mountain, Va. (4500'), June, 1936; and on nearby Mt. Rogers (evidently about 5000'). This foreigner invaded Highlands, N. C. (3800'), as early as 1941 (Stevenson, 1941). Very likely it will be found there in winter also, but the highest published winter record at present is that of 11 individuals listed at 3400' near Boone, N. C., December 21, 1934 (Crook, 1935).

White-eyed Vireo (*Vireo griseus*). To some extent this species occurs as a breeding bird as high in the mountains as 3800' around Highlands, N. C. (Stevenson, 1941). Ganier and Tyler (1934) report that it was fairly common up to 3000' in Shady Valley, Tenn., in June. It is surprising to learn of its summering at 3400' as far north as West Virginia (Brooks, 1945).

Yellow-throated Vireo (*Vireo flavifrons*). Evidently an occasional individual summers (or breeds) at high altitudes, as one was found singing at 3900' near Highlands, N. C., June 24, 1937 (Stevenson, 1941), and Branch Howe found the species in June, 1943, apparently in the same spot. It was found up to 3200' in the mountains near Fontana, N. C., June 11, 1948, but other summer records are below 3000'.

Blue-headed Vireo (*Vireo solitarius*). Unrestricted in upward breeding range, this species occasionally breeds as low as about 500' above sea level (Pearson, Brimley, & Brimley, 1942; Fleetwood, 1947). Westward it has occurred in summer somewhat lower than 2000' in the Great Smokies, where Fleetwood recorded one on July 6, 1934.

Red-eyed Vireo (*Vireo olivaceus*). Collected in North Carolina as high as 4300' near Creston, July, 1939 (Wetmore, 1941), and seen up to 4200' around Highlands (Stevenson, 1941). That it may summer at higher altitudes locally is attested by the following records: one at Newfound Gap (5040') in the Great Smokies, June 20, 1933 (Ganier & Mayfield, 1946); another at that locality, June 14, 1944; nest found at 4800' on Whitetop Mountain, Va., by Murray (1936), who speaks of it as "common everywhere." It was again found to be common at the last locality between 4800 and 5100', July 7, 1946.

Warbling Vireo (*Vireo gilvus*). Breeds up to altitudes of about 2000' in southwestern Virginia. The highest records in North Carolina, at Asheville and Weaversville, are at elevations of about 2200' (Pearson, Brimley, & Brimley, 1942). Along the Mississippi River it nests within 200' of sea level.

Black and White Warbler (*Mniotilta varia*). Wetmore (1939) mentions a June record of this species in the Great Smokies at 5000', and it has been collected at that elevation in the Unicois by Ganier and Clebsch (1946). The senior author (1941) found it common near Highlands, N. C., up to 4800'. Downward, it probably breeds within 300' of sea level in Alabama (Howell, 1928) if not in other southeastern States.

Swainson's Warbler (*Limnethlypis swainsonii*). Among the most surprising of ornithological discoveries in recent years has been the fact that this warbler, formerly thought to be an Austral species, at times breeds high in the mountains of the Southeast. Stevenson (1941) found it summering around Highlands, N. C., at altitudes of 3700 and 3800'; and Wetmore (1939) reports one taken at 3000' near Shady Valley, Tenn., June 8, 1937. In West Virginia, Brooks and Legg (1942) found it up to 2000'.

Worm-eating Warbler (*Helmitheros vermivorus*). Found in summer up to 4200' in the vicinity of Highlands, N. C. (Stevenson, 1941), and at about the same altitude in West Virginia (Brooks, 1934). A very surprising record is that of one seen by Trautman at 5800' in the Great Smokies, June 22, 1940. The minimum altitude is not well known, but there are records of its nesting as low as 500'.

Golden-winged Warbler (*Vermivora chrysoptera*). Recorded in June as high as 5000' or more in the Great Smokies (Ganier & Clebsch, 1938) and at 4300' near Creston, N. C., on July 13, 1939 (Wetmore, 1941). Brewster has indicated that it breeds as low as 2000' in western North Carolina (Pearson, Brimley, & Brimley, 1942), and three summer records in Georgia evidently are at comparable altitudes: Rising Fawn, Young Harris, and Margaret (Greene, et al, 1945). It breeds near Gatlinburg, Tenn., however, at altitudes as low as 1450'.

Blue-winged Warbler (*Vermivora pinus*). Found to be a fairly common summer resident on Lookout Mountain near Mentone, Ala., at alti-

tude of about 1600' (Stevenson, 1944). Records at Young Harris and Margret (Fannin Co.) Ga., apparently are at about 1900-2000' (Greene, et al., 1945). Records at Autaugaville (Howell, 1928) and Florence, Ala. (June 18, 1940) at altitudes of about 450', mark the approximate breeding limit.

Orange-crowned Warbler (*Vermivora celata*). Winter records of this hardy warbler at Swannanoa and Weaverville, N. C., establish its wintering at altitudes of about 2200' (Pearson, Brimley, & Brimley, 1942).

Parula Warbler (*Parula americana*). At two localities in North Carolina this species has been found to summer at rather high altitudes: near Hayesville, 3500' (Wetmore, 1941), and at Highlands, 4100' (Stevenson, 1941). In Virginia, however, Murray (1936) found it as high as 5300' on Whitetop Mountain, June 2, 1936; and both Fleetwood and Trautman have found it about 5000' in the Great Smokies in June.

Yellow Warbler (*Dendroica petechia*). Two summer records in the Highlands, N. C., region are at the exceptionally high altitudes of 3000 and 3700' (Stevenson, 1941); and Murray (1938) recorded one at about 3000' in Highland County, Va. The other extreme is represented by its probable breeding near sea level in North Carolina (Burleigh, 1937.)

Black-throated Blue Warbler (*Dendroica caerulescens*). Breeds from 6590' on Mt. LeConte (Stevenson), and 6000' on Mt. Mitchell (Burleigh, 1941) and on Roan Mountain, down to 3000' or lower. It has been recorded in summer as low as 3200' near Highlands, N. C. (Stevenson, 1941), and at 2900' in the Great Smokies (Stevenson); but Ganier (1923) found a nest with eggs near Beersheba, Tenn., at an altitude of about 2000', May 26, 1922.

Myrtle Warbler (*Dendroica coronata*). According to Pearson and the Brimleys (1942), this winter visitant ranges up to 2000' in North Carolina. It reaches about the same elevation at that season at two Virginia stations: Emory (Stevenson, 1946) and Blacksburg (the Handleys, 1946).

Black-throated Green Warbler (*Dendroica virens*). Breeds from the highest elevations in the South down to about 500' in Alabama. In Virginia and the Carolinas, *D. v. waynei* breeds near sea level, but its upward breeding limits are not well known.

Cerulean Warbler (*Dendroica cerulea*). Evidently ranges in summer from 2400' near Emory, Va., down to about 300' in central Alabama, (Howell, 1928) and 250' near Memphis, Tenn.

Blackburnian Warbler (*Dendroica fusca*). Recorded in early summer from 5900' in the Great Smokies (Wetmore, 1939) and 5000' on Mt. Mitchell (Burleigh, 1941) down to 2600' in Pickens County, Ga. (Odum, 1945a & b), and to 2400' at Fontana, N. C., where it was common on June 11, 1948.

Yellow-throated Warbler (*Dendroica dominica*). A most unusual record is that of a singing bird near Highlands, N. C., at an altitude of 3750', June 19, 1937 (Stevenson, 1941). Evidently it breeds regularly up to 2700' at Fontana, N. C., where one was seen at 3200'.

Chestnut-sided Warbler (*Dendroica pensylvanica*). Breeds as high as 6300' on Mt. Mitchell (Burleigh, 1941) and 6500' in the Great Smokies (Stevenson). Found in summer as low as 2000' at Franklin, N. C., and 2100' near Dillard, Ga. (Stevenson, 1941).

Pine Warbler (*Dendroica pinus*). Apparently bred in the town of Highlands, N. C. (3800'), in the summer of 1937, but not in 1941 (Stevenson, 1941). Its breeding at this altitude is thought to be exceptional, and it is doubtful whether it normally winters at altitudes much higher than 1500'.

Prairie Warbler (*Dendroica discolor*). The senior writer (1941) has found this species in the breeding season up to 2200' near Dillard, Ga., and to 2600' near Fontana, N. C.; but it occasionally ranges up to 4000' in Virginia and to 3000' in West Virginia (Brooks, 1937).

Palm Warbler (*Dendroica palmarum*). Late December records at Blacksburg, Va. (the Handleys, 1946), and Burleigh's winter record at Asheville, N. C. (Pearson, Brimley, & Brimley, 1942), indicate that the Palm Warbler sometimes winters at altitudes of about 2200'.

Oven-bird (*Seiurus aurocapillus*). The upward breeding limit of this species appears to be slightly in excess of 5000'. At about this elevation it has been recorded in the Great Smokies (Ganier, 1926), in the Unicois (Ganier & Clebsch, 1946), and near Highlands, N. C. (Stevenson, 1941). A slightly higher record for the Great Smokies is that of one seen by Stupka at 5300' in June, 1944. Murray (1936) has found it at 5200' on Whitetop Mountain, Va., and he (1937) and Wetmore recorded one at 5300' on Mt. Rogers. The nesting of this bird in the hills near Florence, Ala., at about 600' (Howell, 1928) affords an example of its other altitudinal extreme at that season, although there is evidence that it may nest near sea level in southeastern Virginia (Duvall, 1937).

Louisiana Water-Thrush (*Seiurus motacilla*). The highest altitude at which this species has been recorded in summer is 5000', 12 miles west of Franklin, N. C. (Wetmore, 1941). Ganier and Clebsch (1946) found it up to 4250' in the Unicois, and the senior author (1941) has records as high as 4000' around Highlands, N. C. The Water-Thrush's other altitudinal extreme at this season is near sea level (Pearson, Brimley, & Brimley, 1942).

Kentucky Warbler (*Oporornis formosus*). Among the highest early summer records available to the writers are those at Highlands, N. C., at about 3200' (Stevenson, 1941); and the report of one near Cosby, Tenn., 3500' (Wetmore, 1939). It reaches 3400' in the Great Smokies. Farther north, moreover Brooks (1934) indicates that it breeds up to 3500' in West Virginia.¹

Yellow Throat (*Geothlypis trichas*). Although this little warbler was not recorded higher than 3950' in the Blue Ridge Mountains of North Carolina (Stevenson, 1941), it has often been recorded in summer at higher altitudes farther north. Wetmore (1941) reports collecting one near Creston, N. C., at 4600'; and it breeds regularly, though locally, in the Great Smokies at 6300'. Murray (1937) and Wetmore found it at about 5000' on Mt. Rogers, Va. Ganier and Clebsch (1938) show the Yellow-throat to occur in the Great Smokies at altitudes in excess of 5000', and below 2500', but do not cite records for elevations between 2500 and 5000'.

¹The statement that the Kentucky Warbler ranges up to 4000' in North Carolina (Pearson, Brimley, & Brimley, 1942) is not substantiated by definite published records. If such records exist, they may refer to migrating individuals.

Yellow-breasted Chat (*Icteria virens*). Burleigh (1941) implies that a singing male seen at 5000' on Mt. Mitchell was summering at about that altitude, and the senior author heard one singing at 5400' on the slope of Mt. LeConte, June 9, 1948. The species has also been found up to 4400' near Highlands, N. C. (Stevenson, 1941). It is known to reach 4000' in Virginia (Hostetter, 1947), and Brooks (1934) has found it up to 3600' in West Virginia. By contrast, it breeds at sea level in some parts of the South.

Hooded Warbler (*Wilsonia citrina*). The maximum altitude at which this species is known to summer appears to be 4900', Fleetwood having found one at this level in the Great Smokies, June 7, 1934. Elsewhere it reaches 4200' in the Unicois (Ganier & Clebsch, 1946) and 3950' around Highlands, N. C. (Stevenson, 1941). Farther north Murray (1946b) and Brooks (1934) report it at 3500' in Virginia and West Virginia, respectively.

Canada Warbler (*Wilsonia canadensis*). Breeds from the highest altitudes in the South (Burleigh, 1941; Stupka) down to 3400' near Highlands, N. C. (Stevenson, 1941), and in the Great Smokies.

Redstart (*Setophaga ruticilla*). Summer records in the Great Smokies are at altitudes much higher than those in other parts of the South. Fleetwood found three at 5600' or above, June 13, 1934; and the junior author has two records at 4900' (June 11 and 12, 1937). Freer has found the species in Virginia at 3100' and 3600' (Murray, 1946b), but as the dates are not stated these birds may have been migrants. There seem to be no other records of its summering any higher than 2300' (Pearson, Brimley, & Brimley, 1942).

English Sparrow (*Passer domesticus*). The appearance of several of these aggressive birds at Highlands, N. C. (3800'), about 1920 or 1925 may mark the highest altitude at which the species has been recorded in the Southeast. These birds were shot by a public-spirited citizen, and the species had not returned there up to 1941 (Stevenson, 1941).

Meadowlark (*Sturnella magna*). In the region under immediate consideration there seem to be only two summer records at altitudes above 2400': a singing bird found near Highlands, N. C., at 3000', July 8, 1937 (Stevenson, 1941); and numbers seen up to 3000' at Shady Valley, Tenn. (Ganier & Tyler, 1934).¹ Farther north, however, Murray (1936; 1937; 1938) has several records ranging from 4000 to 5000' in Virginia. At three locations the Meadowlark has been found wintering at elevations above 2500': Stevens and Scott (1947) list one at 2800' or above in the Shenandoah National Park, Va., December 28, 1946; Hutchins and others (1946) found a few at Windom, N. C. (2700'); and Brown (1914; 1916) reported large numbers at 3000' or above near Boone, N. C., in December.

Red-wing (*Agelaius phoeniceus*). Breeds to some extent at Highlands, N. C., at 3800' (Stevenson, 1941); and Ganier and Tyler (1934) found it in June at Shady Valley, Tenn. (2800'). Even in Virginia, Murray (1938) records it as high as 3000' in Highland County. Its normal upward limit in

¹It seems uncertain whether Meadowlarks seen in "late summer" at Boone and Blowing Rock, N. C. (Murray, 1946a), should be regarded as breeding birds, late summer wanderers, or early fall migrants.

winter is probably about 2000', but Brown (1919) found it once at Boone, N. C., at an altitude of about 3300'.

Orchard Oriole (*Icterus spurius*). Breeds up to about 2300' (or more) in southwestern Virginia, and to 2000' at Franklin, N. C. (Stevenson, 1941).

Baltimore Oriole (*Icterus galbula*). Evidence that this species has nested as high as 3800' above sea level is obtained from two earlier investigators at Highlands, N. C. It could not be found there, however, in 1937 nor in 1941 (Stevenson, 1941), and it may not breed regularly above 2500'. South-westward it breeds at altitudes of 200' or lower.

Grackle (*Quiscalus quiscula*). Records as high as 4000' at Blowing Rock, N. C. (Murray, 1946a), seem indicative of its breeding nearby, as they were made as early in summer as "mid-July." Otherwise it has been found in summer as high as 3000' in Highland County, Va. (Murray, 1938), and 2800' at Shady Valley, Tenn. (Ganier & Tyler, 1934). It is of scarce occurrence in winter at Blacksburg, Va. (2170') (the Handleys, 1946), and there seem to be no published winter records at higher altitudes.

Cowbird (*Molothrus ater*). Probably marking the normal upward limit in the breeding season are Perrygo's records at Shady Valley, Tenn. (2900'), June, 1937 (Wetmore, 1939), but an extremely high record is that of an immature collected at 5000' in the Unicois by Ganier and Clebsch (1946), June 20, 1944. Blacksburg, Va., appears to be the highest locality for which a winter record has been published (the Handleys, 1946).

Scarlet Tanager (*Piranga olivacea*). Most of the high records for the breeding season are near 5000'. At that altitude Ganier and Clebsch (1946) saw it in the Unicois; Murray (1936) found it on Whitetop Mountain, Va.; and Tanner and Stevenson heard one singing on Roan Mountain, June 29, 1946. One was found in the Great Smokies at 5040' (or higher), June 20, 1933 (Ganier & Mayfield, 1946); and another was seen at 5800' in these mountains by Trautman, June 22, 1940. Evidently it breeds at altitudes as low as 600 or 700' in Alabama (Howell, 1928) and possibly lower in Tennessee (Calhoun, 1941) and North Carolina.

Summer Tanager (*Piranga rubra*). The maximum altitude at which this Austral species summers appears to be about 2500' in the Great Smokies (Ganier & Clebsch, 1938). It also reaches 2300' around Emory, Va., and its nest was found at 2400' on Cheaha Mountain, Ala., June 6, 1948.

Cardinal (*Richmondia cardinalis*). Occasionally found in summer up to 4200' around Highlands, N. C. (Stevenson, 1941). Murray (1932) mentions a few seen at Blowing Rock, N. C. (4000'), without citing dates. Hostetter (1947) has found it at 3820' at Mountain Lake, Va. Doubtless the species remains at these altitudes all winter. A rather unusual record is that of a Cardinal seen by Fleetwood at 4492' in the Great Smokies, June 16, 1935.

Rose-breasted Grosbeak (*Pheucticus ludovicianus*). Ganier and Clebsch (1944) give 5200' as the maximum summer altitude for this species in the Unicois, and indicate (1938) that it reaches 5000' in the Great Smokies. Murray (1936) saw it at 5000' on Whitetop Mountain, Va., and Wetmore (1941) speaks of one taken near Boone, N. C., at 5100'. There are two ex-

ceptionally high records: one singing on Little Roan Mountain at 5700' in June, 1936 (Ganier, 1936); and one seen at 6000' on Mt. Le Conte, June 13, 1943. Pearson and the Brimleys (1942) state that "it breeds . . . at an elevation of 3000 feet and upward," but there seem to be no definite records below 3500'.

Blue Grosbeak (*Guiraca caerulea*). A breeding record at Weaverville, N. C., is at the unusually high altitude of 2200' (Pearson, Brimley, & Brimley, 1942).

Indigo Bunting (*Passerina cyanea*). The breeding of this species at high altitudes in North Carolina is evidenced by its regular summering up to 4900' near Highlands (Stevenson, 1941) and 4800' near Boone (Wetmore, 1941). Ganier and Clebsch (1938) indicate that it reaches or exceeds 5000' in the Great Smokies. Apparently it formerly bred near the top of Roan Mountain (6300'), but it seemed to be absent there in 1946. It is very surprising to read that it was ". . . fairly common along the summits", June 22-27, 1936, and ". . . seen or heard at eight locations" (Ganier, 1936), as Tanner and Stevenson failed to find any there on June 28 and 29, 1946. For so conspicuous a bird as the Indigo Bunting this is surely of some significance. Its occasional summer occurrence at such altitudes, however, is substantiated by records in the Great Smokies: June and July, 1936, 6300'; June, 1940, 5700' at two localities.

Purple Finch (*Carpodacus purpureus*). A winter record at an extremely high altitude is provided by Burleigh (1941), who found one singing near the top of Mt. Mitchell (6500'), January 24, 1930. Its normal upward limit at that season must be much lower.

Pine Siskin (*Spinus pinus*). Breeds on some of the highest mountains in the Southeast, but may rarely occur much lower in summer. Wetmore (1939) refers to a young female taken at 2700' in the Great Smokies, July 2, 1937. The lowest extremes given by Ganier and Clebsch (1938) are between 4500' and 5000'. It is probably unlimited in its vertical distribution in winter.

Goldfinch (*Spinus tristis*). Virtually unlimited by altitude in the Southeast in summer. Burleigh (1941) asserts that it breeds near the top of Mt. Mitchell, and Ganier (1936) found it near the summit of Roan Mountain. On the other hand, it may be found throughout the summer in parts of Alabama where the altitude is not more than 200' above sea level, and probably breeds nearer sea level in North Carolina. In winter it ranges up to 5000' in the Great Smokies, and more rarely to 6100' (December 21, 1941).

Red Crossbill (*Loxia curvirostra*). Summers near or at the tops of the highest mountains in the Southeast, but at times possibly much lower. Ganier and Clebsch (1938) speak of finding it between 5000 and 6000' in the Great Smokies. Stevenson (1941) saw flocks at 3800 to 4000' at Highlands, N. C., and others have found them there more recently. Some records are at much lower elevations. At 1300' Stupka (1938) found a pair of adults feeding young near Gatlinburg, Tenn., April 10, 1938; he and Dr. Alfred Lewy found adults and young there, May 5, 1945. Joe Manley saw an adult Crossbill feeding a young one at Cades Cove (1800'), March 29, 1939. This species

is probably unrestricted in its altitudinal range in certain winters.

Towhee (*Pipilo erythrophthalmus*). Ranges up to at least 6300' in the breeding season, according to the testimony of several independent observers, and to 6500' in the Great Smokies. It is surprising to find (Burleigh, 1941) a winter record at 5200' on Mt. Mitchell, February 6, 1931. The wintering of this species at such an altitude must be most unusual, as it was found by Brown (1916) only once in December at Boone, N. C. (about 3300'). Howell and Wright (1945) reported it at Highlands, N. C. (3800'), December 24, 1944.

Savannah Sparrow (*Passerculus sandwichensis*). Two records indicate that the maximum altitude reached by this species in winter is about 2200': near Asheville, N. C., by Burleigh (Pearson, Brimley, & Brimley, 1942); Blacksburg, Va. (the Handleys, 1946).

Grasshopper Sparrow (*Ammodramus savannarum*). Records at Shady Valley, Tenn. (2900') in June, 1937 (Wetmore, 1939) may mark the upward limit of the species in the breeding season. It is surprising to learn that it has occurred in winter at about 2200' at Swannanoa, N. C., where Burleigh collected one on December 29, 1931. (Pearson, Brimley, & Brimley, 1942).

Vesper Sparrow (*Poocetes gramineus*). Like the House Wren, this northern species may be found at almost any altitude within its geographical range. Wetmore (1941) reports collecting it at an altitude of 4500' near Boone, N. C., in July, 1939, and Ganier (1936) refers to a record at the summit of Little Roan Mountain (5700'), June, 1936. Murray (1936) found it at 5500' on Whitetop Mountain, Va. A breeding record at a very low altitude (about 300?) is supplied by Craighill at Rocky Mount, N. C. (Pearson, Brimley, & Brimley, 1942). In northeastern Tennessee the Vesper Sparrow winters at altitudes of 1500 to 1800', and Batchelder (1886) saw it around Asheville, N. C. (2200'), in December, 1885.

Pine-woods Sparrow (*Aimophila aestivalis*). Two singing birds were heard on Lookout Mountain, near Mentone, Ala., at an elevation of 1800', June 11, 1943; and Ganier (1923) found this species at a comparable altitude near Beersheba, Tenn. In Georgia, Denton and Odum (1945) report it as high as 2000' in Cherokee County, July 29, 1945. This sparrow evidently breeds at even higher altitudes farther north. One seen by Freer (1933) at 2500' in Augusta County, Va., April 15, 1933, was probably breeding there, as it is known to summer almost as high in the mountains somewhat farther west in that State (Stevenson, 1947b). Brooks (1938) has several West Virginia records between 2500 and 3000'.

Junco (*Junco hyemalis*). Found throughout the year at the summit of Mt Mitchell (Burleigh, 1941). In summer it has been recorded as low as 3500' in North Carolina by Wetmore (1941) and Stevenson (1941); and in the Unicois by Ganier and Clebsch (1946). In the Great Smokies, however, there are records as low as 2600' (Ganier & Clebsch, 1938) and 2750' (Stevenson). Although Sprunt (1924) gives 2800' for the minimum range of *J. h. carolinensis* in Buncombe County, N. C., he does not state the date of its occurrence at that altitude.

Tree Sparrow (*Spizella arborea*). Scott (1947) speaks of finding several at 4250' or above in Highland County, Va., December 29, 1946. From this elevation it ranges downward to about 250' near Memphis, Tenn., and near sea level in Virginia and North Carolina.

Chipping Sparrow (*Spizella passerina*). Recorded in summer as high as 4050' around Highlands, N. C. (Stevenson, 1941), and summer records in Highland County, Va. (Murray, 1938), apparently were at similar elevations. It ranges regularly up to 4500' in the Great Smokies, however, where there are exceptional records by Trautman at 5800 and 6300'. It also breeds near sea level in parts of the South. The highest winter record is that of Burleigh's at Bent Creek, N. C., presumably at an altitude somewhat in excess of 2000' (Pearson, Brimley, & Brimley, 1942).

Field Sparrow (*Spizella pusilla*). Murray (1936) found one singing on Whitetop Mountain, Va., at an altitude of about 4900', and Stevenson heard one in song there at 5300', July 16, 1946. Burleigh (1941) records its breeding up to 5200' on Mt. Mitchell. The highest summer record in the South is that of Trautman—5800' in the Great Smokies, June 22, 1940. It may also be found at the same season near or at sea level. The highest winter records are at Boone, N. C. (about 3300'), where Brown (1916; 1918) and Crook (1935) found it fairly common in December.

White-crowned Sparrow (*Zonotrichia leucophrys*). The highest localities where this sparrow has been found in winter are at altitudes of about 2200': Asheville, N. C. (Pearson, Brimley, & Brimley, 1942); and Blacksburg (the Handleys, 1946) and Emory, Va.¹

White-throated Sparrow (*Zonotrichia albicollis*). Brown's (1919) record of one found on a Christmas bird count at Boone, N. C., (3300'), may be exceptional, although it winters in small numbers up to 2700' at Windom (Hutchins, et al., 1946).

Fox Sparrow (*Passerella iliaca*). Both Ray Brown and Compton Crook have encountered a few Fox Sparrows on their Christmas bird counts at Boone, N. C., even though it tends to be scarce in winter at 2000' or above. James Hutchins and others (1946) saw one at Windom, N. C. (2700'), December 27, 1945. The highest record is in the Great Smokies where Fleetwood saw one at 4000', February 4, 1935.

Swamp Sparrow (*Melospiza georgiana*). Ranges up to 2200' in winter near Emory, Va. (Stevenson, 1946), and to about the same altitude at Asheville, N. C. (Pearson, Brimley, & Brimley, 1942).

Song Sparrow (*Melospiza melodia*). Found in the breeding season up to 6000' or above on Roan Mountain (Ganier, 1936, Tanner and Stevenson) and on Mt. Mitchell (Burleigh, 1941). In one part of the Great Smokies (Clingman's Dome) it reaches 6400'. The mountain population ranges downward to about 700', for Coffey (1942) found it around Chattanooga, Tenn., in July, 1942. Furthermore, *M. m. atlantica* breeds at sea level in North Carolina and Virginia, but in the Southeast it appears that Song Spar-

¹One seen by Miss Boggs at Waynesville, N. C. (2875'), December 1, 1931) Pearson, Brimley, & Brimley, 1942), may have been wintering, although the date does not seem too late for the fall migration.

rows are nowhere found in the breeding season at altitudes from approximately 100 to 800'. Both Brown and Crook found the Song Sparrow common in December at Boone, N. C. (3300'). It would not be surprising to find so hardy a species even higher in the mountains in winter, but published records for these elevations are lacking.

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*The simple truth about birds is interesting enough;
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NOTES HERE AND THERE

The Elizabethton Chapter of the T. O. S. is again conducting regular observations of the fall migration of hawks. Trips have been planned for several week ends thruout the season to Hump Mountain, where in previous years they have had some success in seeing migrating hawks. The Knoxville Chapter is also planning, either as a group or by certain individuals, field trips to places where hawk migration may be observed.

The December issue of THE MIGRANT will contain the reports from the various Christmas bird counts held over the State. For this reason the issue will not appear until some time after the counts are made. The December issue will also contain several notes and items which could not be carried in this number.

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ADDITIONAL RECORDS OF BIRDS FROM BOLIVAR COUNTY, MISSISSIPPI

By MERRITT G. VAIDEN

The records described in this article are of birds observed or collected in Bolivar County, Mississippi, and they contain information not in any of the earlier papers on the birds of this area. No further prefatory remarks on the area are made here because they would be the same as the remarks in previous papers: THE MIGRANT, September 1939, June 1940, September 1940, and September 1947.

I do wish to thank many boys and young men who have now and in the past been constant companions in the field and without whose assistance I would have only the usual two eyes, two legs, and two hands; as it is, I have many. Especially do I wish to mention by name Edward Sosebee, Herman McDonald, Bobby Linnell, Lea Black, Wally Welshans, Jr., Carl Black, Jr., Guy Thompson, Jr., and the greatest of them all, Sam M. Ray.

For assistance in naming species and subspecies, I continue to offer thanks to Dr. John W. Aldrich of Fish and Wildlife Service and to Dr. Alexander Wetmore, Secretary of Smithsonian Institution, both of Washington, D. C.

Harlan's Hawk, *Buteo harlani*. A male taken January 19, 1946, by H. R. Whiteside, six miles north of Rosedale proved to be this species.

Florida Red-shouldered Hawk, *Buteo lineatus alleni*. A bird obtained October 2, 1944, by Guy A. Thompson, Jr., one-half mile west of Rosedale was assigned to *alleni*. It was an immature male.

American Golden Plover, *Pluvialis dominica dominica*. I have two specimens obtained on March 26, 1944, and one found dead along the highway by C. W. Sosebee on April 2, 1946. This bird is erratic in its visits during spring. On March 26, 1944, near Legion Lake along the levee, we found approximately fifty of these birds feeding. They allowed close approach and moved only a short distance when two were collected.

Upland Plover, *Bartramia longicauda*. Regularly each summer these fine birds can be found feeding in alfalfa and grass fields. Earliest date of arrival is July 25 (1948), and latest, September 3 (1934).

Lesser Yellow-legs, *Totanus flavipes*. I wish to report this species wintering here for the winter of 1946-1947. The birds were observed December 14, 21, and 25, 1946, and February 8 and 14, 1947. A male was taken on December 21, 1946.

Least Sandpiper, *Erolia minutilla*. We have found this bird wintering

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here occasionally. With low temperatures, a great sleet storm, and two deep snows in December, 1947, and January, 1948, and with the lake frozen over, yet we found three to eleven birds spending the winter at Lake Bolivar. Specimens were taken on December 6, 1947, and January 3 and February 1, 1948. Other late fall or winter records are, of birds collected, March 18, 1938, December 19, 1946, and November 16, 1947.

Eastern Dowitcher, *Limnodromus griseus griseus*. A specimen taken at Welshans Slough on August 25, 1946, a male, was assigned to this race by Dr. Aldrich. I have not, heretofore, observed this bird in thirty years of field work here.

Stilt Sandpiper, *Micropalama himantopus*. This species must be considered a regular migrant here based on numerous summer and early fall collections. A male was taken on August 10 and a female on September 28, 1947, at Legion Lake. I have six additional collection records and numerous sight records.

Western Sandpiper, *Ereunetes mauri*. A most common migrant at Welshans Slough August 24 to 30, 1946. Nine specimens were taken.

Interior Least Tern, *Sterna albifrons athalassos*. A female taken at Welshans Slough on May 22, 1945, was assigned to this race by Dr. Aldrich (1946).

Least Flycatcher, *Empidonax minimus*. Now in my collection are sixteen identified specimens. For spring the collection dates are from April 30 (1946) to May 12 (1940). The summer collection dates are from July 29 (1946) to September 16 (1945).

Louisiana (Carolina) Chickadee, *Parus carolinensis guilloti*. Specimens taken April 25, 1939, and July 25, 1944, were assigned to *guilloti*; awaiting a decision of the A.O.U. Committee as to the validity of this race, we publish for what it is worth.

Western House Wren, *Troglodytes aedon parkmanii*. This form was taken on April 6, 1947, a female, at Welshans Slough. I do not find this bird recorded from north Mississippi.

Newfoundland Winter Wren, *Troglodytes troglodytes aquilonaris*. A male secured on March 23, 1946, and a male on November 29, 1946, were assigned to this race by Dr. Aldrich in 1948. It is a new race just recently described by Peters and Burleigh (Proc. Biol. Soc. Washington, vol. 61, pp. 116-117) and these are the first reported collections for the State.

Appalachian Bewick's Wren, *Thryomanes bewickii altus*. Examples taken on January 5, and March 23, 1947, were assigned during 1948 to this subspecies by Dr. Aldrich. I find no published record of this form being taken in the northern part of the State heretofore.

Eastern Long-billed Marsh Wren, *Telmatodytes palustris dissaeptus*. Four specimens taken on May 3, and May 6, 1945, were assigned to this form (1948) while males taken on May 3 and 5, 1945, were assigned to *dissaeptus* but intermediate toward *iliacus*.

Prairie Long-billed Marsh Wren, *Telmatodytes palustris iliacus*. A bird collected on May 2, and two specimens on May 3, 1945, were called *iliacus*.

Northern Blue-headed Vireo, *Vireo solitarius solitarius*. One specimen, a male, obtained May 18, 1946, was called this northern form. During late fall and the winter of 1947-1948 these birds remained here in fair numbers. Many were collected but have not been identified to subspecies at this time.

Swainson's Warbler, *Limnethlypis swainsonii*. While this bird can occasionally be found singing in spring, I was not able to collect a specimen in this county until one was taken on September 6, 1947. The bird was found dead by Guy A. Thompson, Jr., at Old River Lake. I had injured a bird there the day previous and then lost it in the dense vegetation.

Worm-eating Warbler, *Helmintheros vermivorus*. This species has evaded me for thirty years at this locality. On August 9, 1947, Lea Black reported seeing two birds. On August 11, I succeeded in taking a female at the locality pointed out to me by Black. On August 13 a juvenile male was secured; on August 24 two females were obtained and seven additional birds located.

Blue-winged Warbler, *Vermivora pinus*. One of the rarest warblers here in migration. A female was taken on August 23, 1947, at Old River Lake. Lea Black first located the bird and called my attention to it as it moved among "switch" willows some fifteen feet above ground. It is the second collected specimen for north Mississippi.

Nashville Warbler, *Vermivora ruficapilla*. Guy A. Thompson, Jr., pointed out to me the first fall observation of this species. It was collected on October 5, 1947, and proved to be a male in good plumage. This bird was feeding with hundreds of late migrating Tennessee Warblers in willows growing along the shoreline at Legion Lake.

Cerulean Warbler, *Dendroica cerulea*. This is one of the rarest warblers in migration as only two have been observed and both were collected. On April 27, 1939, a beautiful male was secured from a small cottonwood at Legion Lake; on August 1, 1944, a female was shot, from a native pecan tree forty feet above ground, in my yard here. The bird was singing at the time of collection.

Thick-billed Red-winged Blackbird, *Agelaius phoeniceus fortis*. A male collected in my yard on February 11, 1945, proved to be this western race. I have no available record of this form having been reported taken in the State prior to this.

Rusty Blackbird, *Euphagus carolinus*. Through an oversight I have not reported this species being taken in Bolivar County many years ago. On December 9, 1939, I found these birds feeding in a cow-lot along with grackles and some Red-wings and there collected a male. On February 18, and on April 7, 1940, a male and female were taken from enormous flocks. The last two collections were made following the severe freeze with unusually low temperatures.

Northern Vesper Sparrow, *Poocetes gramineus polius*. A female secured March 31, 1945, at Black's Cypress Brake was assigned to this subspecies.

Eastern Lincoln Sparrow, *Melospiza lincolni lincolni*. A bird secured on April 28, 1946, a female, was called the eastern form but with a comment "Plains Type". It was found injured by Wally Welshans in his yard.

Appalachian Song Sparrow, *Melospiza melodia euphonia*. I have forty-seven identified specimens in my collection. Thirty-one examples have been assigned to this race.

Mississippi Valley Song Sparrow, *Melospiza melodia beata*. I have fifteen specimens identified as this subspecies.

Dakota Song Sparrow, *Melospiza melodia juddi*. A male collected January 24, 1945, at Welshans Slough was assigned to this race by Dr. Wetmore with notations as "not typical but nearer to *juddi*."

ROSEDALE, BOLIVAR COUNTY, MISSISSIPPI. August 25, 1948.

A RECORD OF THE SNOW BUNTING IN EAST TENNESSEE

By FRED W. BEHREND

On Big Bald Mountain in Unicoi County, situated about twelve air miles south to southeast of Erwin in East Tennessee and about twenty-five air miles north to northeast of Asheville, North Carolina, I was surprised and thrilled at seeing, on November 21, 1948, a bird not heretofore known to me other than from illustrations in bird books, the Snow Bunting (*Plectrophenax nivalis*).

Inducement to my climbing this 5516 ft. high "bald" of the Southern Appalachians, the greater part of which lies on the Tennessee side and a lesser part on the North Carolina side, was anticipation of "last-of-the-season" observation of hawk migration considered opportune when radio and newspaper accounts of heavy snow storms in northwestern regions indicated a foretaste of winter weather in the South. On my last previous visit to Big Bald Mountain, on November 10, 1946, about ten hawks were observed within a relatively short time. A secondary purpose of the trip was to check on Pipits, two having been observed on this same previous trip.

Walking at noontime over the treeless summit of Big Bald, its cover of rich grass now dry and short and the open slopes dotted with numerous foot-wide, foot-high humps of moss, I flushed at near 5500 ft. altitude a small bird from behind one of these humps. It flew a short distance and then ran on the ground. Noting at first glance, while the bird was in flight, whiteness in the tail feathers, I thought of a Pipit, but scrutiny of the seemingly unperturbed bird resting on the ground revealed considerable white in the body plumage. Carefully raising the binoculars, I was in position to study the bird minutely. In build and size it reminded me somewhat of the Ground Dove seen in Florida. Its plumage made me extremely curious as to the identity of the bird. The white of breast and belly, the solid buffy breast band reaching from from one wing to the other (not shown in the illustration of the Snow Bunting in the Peterson "Field Guide" but in that in the abridged For-

bush-May volume), the buffy spot behind the eye, and the buffy forehead, crown, and nape—all attracted attention; likewise the brown striping of the back and the black and white feathers of the short tail as well as the short but sharply-pointed yellow bill.

Speculating on what the bird might be, the thought of the Snow Bunting occurred to me. A look into the handy Peterson confirmed this to be my find. While I watched the bird, it began to walk about and pick on dried-out cow dung (cattle graze on Big Bald from Spring to Fall) and moss. When the bird momentarily disappeared behind one of the moss humps, I edged closer to it and was not more than thirty feet distant. It re-appeared on top of the moss hump and stayed there for a while, affording additional leisurely observation at close range. To my attempts at still closer approach, it reacted by running away, a few yards at a time. It finally flew a distance of about 150 feet. I did not pursue the bird further, but crisscrossed the immediate surroundings, hoping to locate additional birds of this species. This proved unsuccessful. Approximately fifteen minutes prior to finding the Snow Bunting, while I observed from the very summit of Big Bald a Red-tailed Hawk soaring over the woodland below the eastern rim of the mountain, a flock of about eight small birds passed overhead in straight and rapid flight, disappearing behind the summit. Their song in flight seemed unfamiliar to me. I disassociated it with that of Goldfinch or Pipit, of which former a few individuals had been heard in flight on my approach of the summit and of which latter none at all were found on this trip. The birds passed overhead again a few minutes later in the direction from which they had come. Observation of these birds, because of its briefness and casualness, was too inconclusive as to assume that the Snow Bunting might have been one strayed from a flock.

Reviewing THE MIGRANT of the past few years for earlier records of the Snow Bunting in East Tennessee or other parts of the State, I was unable to find reference to it. Upon inquiry, Mr. Albert F. Ganier, Curator of Tennessee Ornithological Society, informed me that he is quite certain that this find of the Snow Bunting on Big Bald Mountain is a first record for Tennessee. It is interesting to note that, as published in the January 1947 issue of "The Chat", bulletin of the Carolina Bird Club, a flock of an estimated 100 Snow Buntings was listed at Asheville, North Carolina, on the 1946 midwinter bird count. Pearson, Brimley and Brimley, in their book on "Birds of North Carolina", refer to nine records, almost exclusively in coastal regions of North Carolina, over a period of years. I am indebted to Mr. Burt L. Monroe, Curator of the Kentucky Ornithological Society, for information on the occurrence of the Snow Bunting in Kentucky. He states that there is a paucity of records of this bird for Kentucky with only two rather recent records known, although literature referring to years past mentions the Snow Bunting as an occasional winter visitant.

The main purpose of the Big Bald Mountain trip, hawk observation, was overshadowed by the experience of finding the Snow Bunting. How-

ever, it was gratifying to observe from morning till the middle of the afternoon a total of eight hawks, of which two or three can be eliminated as possible duplication. Definitely identified were two Red-tailed and two Sparrow Hawks. These possibly are permanent or winter residents of this section.

There were other observations of interest in the woodlands west and north fringing the summit at an elevation of approximately 5200 ft., such as White-breasted Nuthatch (3), Chickadee, probably Black-capped (half-dozen or so), Downy Woodpecker (9), Titmouse (2), Blue Jay (4), Junco (14 plus), Bluebird (flock of 21), Hermit Thrush (1) Robin (1), Grouse (1). Also a total of 37 Crows were seen over the woods south, east, and north of the summit.

322 Carter Boulevard, Elizabethton, Tenn.

THE 1948 CHRISTMAS SEASON BIRD COUNT

By T. O. S. MEMBERS

The annual bird counts were held at eleven different places in Tennessee, on five different dates from December 21, 1948, to January 2, 1949. The counts made at Memphis, Nashville, the Great Smoky Mountains, Greeneville, Kingsport and Elizabethton were organized by T. O. S. chapters, with several members participating; at the other five localities the counts were made by from one to four individuals. A total of 104 different species was found the State over, which is the second largest list compiled in Tennessee bird counts; the record was set in 1942 when the list included 108 species.

In the table and descriptions that follow, the localities are listed from west to east. Under the heading "Information on the Counts" are described the areas, types of habitats covered, weather conditions, number of observers or parties, miles covered, number of species and approximate number of individual birds observed, and the names of the observers. The species and numbers of individuals observed at each locality are listed in the table. For additional information or comments on the records marked with an asterisk (*), see the paragraph containing information on that particular locality.

TABLE OF 1948 CHRISTMAS BIRD COUNTS

	Memphis	Reelfoot	Henderson	Clarksville	Nashville	Murfreesboro	Great Smokies	Greeneville	Johnson City	Elizabethton	Kingsport
Pied-billed Grebe	6	12	3	-----	2	-----	-----	-----	-----	-----	1
Double-crested Cormorant	-----	16	-----	-----	-----	-----	-----	-----	-----	-----	-----
Great Blue Heron	3	7	1	3	1	-----	1	-----	-----	-----	1
Canada Goose	-----	12	-----	-----	-----	-----	-----	-----	-----	-----	-----
Mallard	7	2400	105	7	36	-----	-----	-----	-----	-----	-----

1948 CHRISTMAS BIRD COUNT—Continued

	Memphis	Reelfoot	Henderson	Clarksville	Nashville	Murfreesboro	Great Smokies	Greeneville	Johnson City	Elizabethton	Kingsport
Black Duck	5	-----	-----	-----	4	-----	-----	75	-----	-----	-----
Gadwall	40	-----	-----	-----	6	-----	-----	-----	-----	-----	-----
Baldpate	4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pintail	3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Blue-winged Teal	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Shoveller	390	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wood Duck	3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Redhead	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Ring-necked Duck	265	260	15	-----	1	-----	-----	-----	-----	-----	-----
Canvasback	11	1	2	-----	-----	-----	-----	-----	-----	-----	-----
Lesser Scaup	315	10	18	-----	8	2	-----	-----	-----	-----	-----
American Golden-eye	34	-----	-----	-----	3	-----	-----	-----	-----	-----	-----
Bufflehead	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Hooded Merganser	1	1	-----	-----	-----	-----	2	-----	-----	-----	-----
American Merganser	-----	-----	-----	-----	2	-----	-----	-----	-----	-----	-----
Red-breasted Merganser	7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Turkey Vulture	3	-----	40	1	-----	-----	6	11	-----	-----	-----
Black Vulture	13	7	100	-----	7	26	-----	2	-----	-----	1
Sharp-shinned Hawk	1	-----	-----	-----	-----	-----	-----	-----	-----	1	-----
Cooper's Hawk	4	1	-----	-----	3	1	2	1	-----	-----	2
Red-tailed Hawk	21	5	1	-----	5	1	3	-----	-----	-----	3
Red-shouldered Hawk	5	5	4	1	1	-----	-----	1	-----	1	-----
Broad-winged Hawk	-----	-----	-----	-----	-----	-----	-----	1	-----	-----	-----
Bald Eagle	-----	4	-----	-----	-----	-----	-----	-----	-----	-----	-----
Marsh Hawk	3	3	-----	-----	-----	1	-----	-----	-----	-----	-----
Osprey	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----
Duck Hawk	-----	1	-----	-----	-----	-----	-----	1	-----	-----	-----
Sparrow Hawk	28	2	2	2	25	2	1	3	9	4	1
Ruffed Grouse	-----	-----	-----	-----	-----	-----	8	1	-----	-----	-----
Bob-white	46	-----	-----	27	10	-----	-----	15	-----	20	20
Coot	3	800	-----	-----	5	-----	-----	-----	-----	-----	-----
Killdeer	122	3	-----	-----	37	5	30	11	23	24	12
Wilson's Snipe	1	-----	-----	-----	1	-----	-----	-----	-----	2	10
Herring Gull	-----	3	-----	-----	*1	-----	-----	-----	-----	-----	-----
Ring-billed Gull	108	16	-----	-----	-----	-----	-----	-----	-----	-----	-----
Mourning Dove	30	1	2	32	231	11	41	71	43	10	53
Screech Owl	-----	-----	-----	-----	2	1	1	-----	-----	-----	1
Great Horned Owl	-----	1	-----	-----	1	-----	-----	1	-----	-----	-----
Barred Owl	2	8	2	1	-----	-----	-----	-----	-----	-----	-----
Belted Kingfisher	5	3	-----	-----	2	-----	2	1	-----	2	1
Flicker	165	10	12	3	28	1	3	2	5	14	6
Pileated Woodpecker	2	9	1	2	7	2	10	3	-----	-----	-----
Red-bellied Woodpecker	64	13	6	5	14	2	-----	5	7	1	5
Red-headed Woodpecker	15	2	1	-----	-----	-----	1	1	-----	-----	-----
Yellow-bellied Sapsucker	36	6	4	1	6	1	3	3	1	3	6
Hairy Woodpecker	10	3	1	2	12	-----	6	6	-----	-----	-----
Downy Woodpecker	45	9	7	12	44	2	11	8	11	16	25
Phoebe	1	-----	-----	-----	1	-----	2	2	4	1	2
Horned Lark	12	-----	-----	-----	137	10	25	3	124	-----	153
Blue Jay	292	11	38	6	29	-----	20	56	11	10	80

INFORMATION ON THE COUNTS

MEMPHIS, Tenn. (1946 area but bottomland coverage reduced because of partial flooding; wooded bottomlands, 30%; deciduous woodlots including city parks, 25%; airports, pastures, and old cottonfields, 20%; suburban roadsides, 25%.) Dec. 26, 1948; 6:35 a.m. to 4:45 p.m. Partly cloudy; temp. 19 to 33; calm; frozen underfoot. Thirty-one observers in four main parties, four pairs, and a single,—the main parties breaking up variously at localities worked; inaccessibility of some bottomlands caused some bunching and retracing after 2:30 p.m. Total party hours, 90; total party-miles 260 (80 on foot, 180 by car). 73 species, about 92,-636 individuals. Mr. and Mrs. Ben B. Coffee, Jr., Mr. and Mrs. Howard Barbig, Mrs. Floy Barefield, Robt. Burton, Mary Davant, Robt. Deupree, Lincoln Emery, Jr., Harry Estes, Jr., Harry Geyer, Jr., Newton Hanson, Mrs. Ruth Harrison, Robt. L. Irwin, Jr., Luther F. Keeton, Lawrence C. Kent, Paul Kisling, Charlton Mabry, Franklin McCamey, Jr., Chas. E. McPherson, Jr., Mrs. J. H. McWhorter, Jim McWhorter, Patricia Moore, Mr. and Mrs. Albert L. Powell, Alice Smith, Demett Smith, Jr., Bill Sullivan, Mrs. M. L. Torti, Brother I. Vincent, Alan Ziegler (Memphis Chapter, T. O. S.).

In addition to the birds identified and listed in the table, 660 unidentified small blackbirds and 35,100 unidentified larger blackbirds were seen. 43,790 Starlings were estimated to have been seen.

REELFOOT LAKE, Tenn. (From Tiptonville east around the lake via Spillway and Samburg to Walnut Log, including the timbered bottomlands on the west, and the hills on the east side of the lake; deciduous woodland 55%, open lake 20%, roadside 15%, farmland 10%).—Dec. 27, 1948, 5:30 a.m. to 5:30 p.m. Overcast in the a.m., clear in the p.m.; temp. 25 to 40, wind S, 0-7 m.p.h. Four observers together. Total hours, 12 (8 on foot, 2 in rowboat, 2 in car); total miles, 51 (5 on foot, 3 in rowboat, 43 in car). 77 species, approximately 2,502,565 individuals.—James L. Norman, Robert M. Jenkins, Thomas Walker, Jr., P. W. White, Jr.

The following birds were observed in large numbers: Starling, 50,-000 (est.); Red-winged Blackbird, 2,430,000 (estimated as mathematically as possible. Tremendous continuous flocks, streaming to roost, were observed for one-half hour at dusk); Grackle, 15,000 (est.). The Lincoln's Sparrows were studied at close range by all four observers.

HENDERSON, Tenn. (Chester County and both lakes at Chickasaw State Park).—Dec. 21, 1948; 8:30 a.m. to 4:30 p.m., Temp. 41 to 56; practically no wind, partly cloudy in a.m., overcast in p.m. One party, 3 observers; 43 miles by car, 6 by foot. 51 species, 1337 individuals. Robert L. Witt, compiler.

CLARKSVILLE, Tenn. (838 Gracey Avenue, Paradise Hill Road, Hiatt's Garden, Robin's Swamp, McAdoo Creek, Indian mounds, Marks Slough). Jan. 1, 1949; 7:45 a.m. to 3:00 p.m. Heavy overcast; temp. 28 to 34. Seven miles on foot. 41 species, 534 individuals. Alfred Clebsch, Eddy Clebsch.

NASHVILLE, Tenn. (Areas s. and w. of city, including Radnor Lake, Overton Hills Forest, Leawood, Hobbs Road to Tyne Blvd., Richland Creek, Page Road, Bellemeade, Warner Parks, 101 Pasture, Davidson Road, Hillwood, Bosley Spring, and Bell's Bend of the Cumberland River. 30% open fields, 25% wooded pastures, 15% dense woods, 30% thickets, ditch-banks, and roadsides.)—Dec. 26, 1948; 6:30 a.m. to 4:30 p.m. Clear all day with visibility fine. Temp. 15 to 28; wind from N-W, average 10 m.p.h.; ground bare. 16 observers in 7 parties; total party-hours, 44; man-hours, 115; party-miles on foot, 115; in car, 30. 64 species, 3152 individuals. B. H. Abernathy, Bill Adams, Tom Butler, Louis Branscomb, Bill Crouch, Albert E. Ganier (compiler), Eleanor Gorham, Mr. and Mrs. Robt. M. Hawkins, Helen M. Howell, G. R. Mayfield, Donald Maynard, James A. Robins, E. D. Schreiber, Walter M. Spofford, James Meade. This was the 35th Christmas count by members of the Nashville chapter, T. O. S.

The Herring Gull reported could possibly have been a Ring-billed Gull. Seen also on December 24 were Canvasback, 16; Old Squaw, 1; Ring-billed Gull, 1; on December 27, Pine Siskin, 8; and Barred Owl, 1. The frequent large bird roosts at Nashville were non-existent this year.

MURFREESBORO, Tenn. (parts of Rutherford and Cannon Counties)—Dec. 26, 1948. Cloudy to sunny with some wind, temp. about 30. One observer. 37 species, 399 individuals. H. O. Todd, Jr.

GREAT SMOKY MOUNTAINS NATIONAL PARK, Tenn. (Essentially same area as in past 11 years; circle with 7½ mile radius centered on Bull Head of Mt. LeConte, including a section of the Tennessee-North Carolina divide from Mt. Collins to Newfound Gap; towns of Gatlinburg and Pigeon Forge; open farmland, 30%; deciduous forest, 20%; spruce forest, 20%; abandoned fields, 15%; towns and suburbs, 15%).—Jan. 2, 1949; 7:30 a.m. to 5:30 p.m. Overcast throughout the day; temp. 26 to 48; wind SW and W, very light at low altitudes and to 15 m.p.h. at high altitudes; ground frozen in a.m., thawing in p.m. Altitude range 1200 to 5600 feet. Twenty-two observers in 10 parties. Total party-hours, 75; total miles, 200 (150 by car, 50 on foot). 55 species, approximately 2938 individuals. William K. Baker, Mrs. Harvey Broome, Carlos C. Campbell, Mary Ruth Chiles, Brockway Crouch, Mr. and Mrs. Robert J. Dunbar, Robert Goddard, Joseph C. Howell, William M. Johnson, Mr. and Mrs. Frank Leonard, Mr. and Mrs. Robert A. Monroe, Mrs. E. E. Overton, Arthur Stupka (compiler), James T. Tanner, Samuel R. Tipton, Dorothy E. Williams, Mary Williams, D. W. Yambert, William Yambert (members and guests, T. O. S. and National Park Service).

Both Black-capped and Carolina Chickadees were observed, a total of 143 individuals of these two species. The Juncos represented two subspecies, the typical Slate-colored and the Carolina.

GREENEVILLE, Tenn. (Reed Farm along Roaring Fork Creek, Lick Creek, Bay's Mountain, Tusculum College, Davy Crockett Lake, open farm-

land, 50%; woodlands, 30%; streambanks, 15%; city suburbs, 5%).—Dec. 21, 1948; dawn to dusk. Clear in a.m., overcast in p.m.; temp. 30 to 45, no wind. Six observers in 3 parties. Total hours afield, 21; total miles, 25 (20 on foot, 5 by car). 50 species, 2192 individuals. Mr. and Mrs. Richard Nevius, Mr. and Mrs. J. B. White (Greeneville Chapter T. O. S. members) Eddie Dunham, Johnnie Shanks (members of Boy Scout Troop 72).

JOHNSON CITY, Tenn. (Llewellyn Wood, Cox's Lake, Pickens Bridge, Sinking Creek near Erwin highway). Jan. 2, 1949; 7:30 a.m. to 2:30 p.m., three observers; 2:30 p.m. to 4:30 p.m., one observer. Partly cloudy to fair, temperature near freezing, wind calm. 36 species, 895 individuals. Fred W. Behrend, Robert B. Lyle, Bruce P. Tyler (compiler).

ELIZABETHTON, Tenn. (Same area as in past five years with center at Valley Forge; part of forming Watauga Lake, Watauga and Doe Rivers, Buffalo and Gap Creeks; lake border, 5%; stream borders, 60%; woodlands, 25%; and open fields, 10%).—Dec. 26, 1948; 7:00 a.m. to 5:30 p.m. Clear; temp. 8 to 30; ground bare to 1 in. snow. 12 observers in 5 parties. Total hours, 28; total miles 82 (16 on foot, 66 by car). 45 species, 1269 individuals. Fred W. Behrend, J. C. Browning, Robert Burrow, Katherine and Mrs. Hugo Doob, Jr., Thomas W. Finucane, Lee R. Herndon, Cecil Hilton, Mr. and Mrs. George K. Leonard, Lawrence Ramsey, Howard S. Young (Elizabethton Chapter, T. O. S.).

The Grasshopper Sparrow was observed at 25 feet for five minutes with 8x glasses by Fred W. Behrend. Seen in the area on the day before the count were Bonaparte's Gull, 2; American Pipit, 75 (est.), by Lee R. Herndon.

KINGSPORT, Tenn. (Area was a circle of 15 miles diameter, with center at Pactolus school, four miles S.E. of Kingsport. Area includes Bay's Mountain, and confluence of North and South forks of Holston River; open fields, 35%; woodlands, 25%; river, 30%; city, 10%).—Jan. 2, 1949; 6:00 a.m. to 6:00 p.m. Cloudy in a.m., partly cloudy in p.m.; no wind; temp. 25 to 34, no snow. Nineteen observers in twelve parties. Total hours 84; total miles 86 (23 on foot, 63 by car). 49 species, approximately 2557 individuals. Miss Ruth Dunn, Thomas W. Finucane, Lee R. Herndon, William and Hal and Mr. and Mrs. L. W. A. Meyer, Miss Ethel Peerson, Elinor Lee and Mr. and Mrs. R. W. Pugh, Robert Scoggin, Robert and Mrs. Robert Switzer, Albert Wilkes, Mr. and Mrs. Howard S. Young. (Kingsport Chapter, T. O. S.).

THE ROUND TABLE

LOUISIANA HERON RECORDED IN TENNESSEE AND NORTH MISSISSIPPI.—On July 18, 1948, while on a circuit of Mud Lake, following up herons and shorebirds, the writer saw a Louisiana Heron (*Hydranassa tricolor ruficollis*) fly up from near a point which would establish it as

a record, the first published, insofar as I can determine, for both Tennessee and North Mississippi. At one time it was only forty feet distant, and our entire party of Mrs. Coffey, Brother I. Vincent, Donnett Smith, Jr., and Robt. Deupree observed it leisurely and followed it into the shallower western end. That portion is entirely in Tennessee, this Mud Lake being located on the state line in the southwest corner of Shelby County and the one mentioned almost continually in our seasonal notes.

The Louisiana Heron seemed to remain apart from the many Little Blue Herons and American and Snowy Egrets, and it fed in an entirely different manner. This might be compared with that of the Green Heron except that, because of its height, this bird seemed to have a greater or practically horizontal crouch as it stalked prey. This also would account for it being overlooked among the other herons until it took flight. The American Egrets seem to feed from an almost erect position, while a small group of Little Blue Herons will, at times, seem to be leaning, all in the same direction.

This species is found on the Gulf and South Atlantic coasts and southward, and it rarely wanders northward like other southern herons. A. C. Bent in U. S. National Museum Bulletin 135 gives accidental records for Texarkana, Texas; Clark County, Mo. (April 13, 1890); Franklin County, Ky. (about July 15, 1917); Manitoba; Cape May, N. J.; Long Island, and two for Indiana (1876 and 1894). State lists reveal it, away from the coast, at Rocky Mount and Raleigh, N. C., and casual at Athens, Ga. A recent issue of "The Auk" gave a record for as far north as Connecticut. Baerg (1931) does not list it for Arkansas but William H. Deaderick records it at Hot Springs as follows: one, Aug. 1; two singles, Aug. 8, and one, Aug. 19, 1937 ("Wilson Bulletin", 1949: 261).—BEN B. COFFEY, JR., 672 N. Belvedere Blvd., Memphis, Tenn.

SNOW GOOSE IN GREAT SMOKY MOUNTAINS NATIONAL PARK—The first record of a Snow Goose (*Chen hyperborea*) for Great Smoky Mountains National Park was established on November 14, 1948, when the body of a freshly-killed juvenile male bird was picked up beside the Gatlinburg-to-Maryville highway by Mr. Homer Smith of Elkmont, Tennessee. The bird was discovered approximately four miles south of Gatlinburg and about half-way between Park Headquarters Building and Fighting Creek Gap. Since an examination of the specimen revealed a severe bruise on its neck and a broken right wing, the bird apparently was killed when it flew into telephone wires which parallel the road. More than two dozen external parasites were removed from its plumage before the specimen was deposited in the park's faunal collection. In general appearance the bird is a light ashy-gray above, with faint indications of a brownish wash in places. The back and wings are mottled with white, while the rump, tail and underparts are white. The primaries are black. The bill is dark, almost black, and grades to purplish-red towards the forehead. Measurements: length, 27 inches; wing, 15½ inches; wingspread, 54 inches; bill, 2¼ inches; tail, 4½ inches; tarsus, 3 3/8 inches.

Whether the relatively small but intense hurricane which moved up from the West Indies area to just south of Cape Hatteras a short time prior to November 14 was a factor in the occurrence of this species here will never be known; it is, nevertheless, an interesting conjecture.

Records of the Snow Goose are scarce for East Tennessee. In *THE MIGRANT* for March, 1937, George Foster reported observing this species on Norris Lake on March 21, 1937. Mr. Joe Manley of Gatlinburg, Tennessee, informs me that one Snow Goose, along with approximately forty Canada Geese, was observed by him on Douglas Lake on four or five occasions between November 15, 1947, and late January, 1948. On October 13, 1948, Mr. Manley saw six adult Snow Geese and approximately twenty Canada Geese in a flock on Douglas Lake, at a point about two miles southwest of Dandridge, Tennessee; the latter were observed on the water as well as on the wing, at one time passing over Mr. Manley's boat.—ARTHUR STUPKA, National Park Service, Gatlinburg, Tenn.

AVOCET SEEN IN KNOX COUNTY, TENN.—On November 7, 1948, we observed an Avocet on a small gravel bar in the Clinch River in the western part of Knox Co., Tenn. The bird was standing in shallow water, frequently bobbing its head, and occasionally putting its bill in the water for a brief period. Our observations were made from the Gallaher Ferry Road at a distance of 250 feet from the bird. Since the lighting was ideal, it was possible to distinguish the upturned tip of the bill and the blue color of the legs. We walked along the road, past this gravel bar at 10:30 A.M., and the Avocet was not there, but when we returned along the road at 11:30 A.M., the long-legged white bird was very prominent. At 1:30 P.M., it was still in the same place. We have been unable to find a published record of the occurrence of the Avocet in Tennessee.—JOSEPH C. HOWELL and ANDREW J. MEYERRIECKS, University of Tennessee, Knoxville, Tennessee.

STATUS OF THE HOUSE WREN IN NORTHEASTERN TENNESSEE—In the year 1910, the predominate wrens in this area were the Carolina Wren and the Bewick's Wren, the former a permanent resident and the latter a summer resident. The House Wren was unknown in this territory save as a rare spring migrant. During the last four years a very few singing House Wrens have been noted during the breeding season, but have not returned to their locations a second year. This year, 1948, however, the pair that was reported in *THE MIGRANT* last year has returned to its original nesting box and raised two sets of nestlings, one in the original and one in a neighboring box. The inference might well be that this pair of wrens has definitely settled in Johnson City.

During the last twenty years, about, the Bewick's Wren has decreased in numbers until at this time it is one of the rarest of our birds. The reason is that the House Wren and the Bewick's Wren refuse to dwell in peace in the same general habitat. Wherever they meet they fight. The House Wren has driven out the Bewick's Wren and is very slowly taking

possession. Now we have records for two successive years of the House Wren breeding in Johnson City and also in Shady Valley. — BRUCE P. TYLER, 215 West Unaka Ave., Johnson City, Tenn.

HOUSE WREN NESTING AT GREENEVILLE, TENN.—In March of 1947 one of my neighboring Boy Scouts built a wren house in connection with his bird merit badge study. He put it up about the first of April on a post near my back yard. Early in April he informed me that a wren had taken over. I supposed that it was the Carolina Wren, as one had built its nest in our neighborhood for years. But soon it was identified as a House Wren by its lighter grayish color, lack of eye stripes, and also its song; the low-pitched gurgling song, that he is very persistent in using and that gets rather monotonous at times, makes this wren easy to identify.

In 1947 this pair of House Wrens apparently hatched two broods and stayed until about the first of September. Their feeding range seemed rather limited, being mainly a vacant lot that I had used for a garden. In April of 1948 they returned to the same box, and another pair built close by in a hole in an aspen tree. This year both pairs left around the middle of August.

I had read that House Wrens drove other wrens away, so thought that I would observe to see if I could find any evidence of this. There appears to be some evidence that this happened. Carolina Wrens had built for years in our block, near an old barn. They came back in 1947 but were gone by early summer, then were back by September to spend the winter with us. In the spring of 1948 I was not able to locate any Carolina Wrens in our neighborhood, but they have been with us since the middle of August.

After learning the song of the House Wren, we were able to locate some at two other points in the city and also another on a field trip. My Scouts, some of whom are very well trained in bird study, claim to have identified House Wrens at different places, so it appears that they are not at all uncommon in Greene County.—J. B. WHITE, 303 Main Street, Greeneville, Tenn.

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KEEPING THE MINUTES

Between forty and sixty years ago the Passenger Pigeon slid to extinction. No person today is able to say assuredly what caused the final disappearance of this bird. There seem to be no records of how or where the last few pigeons nested, if they did, nor any description of the nesting success of the last colonies observed. Because of this lack of information, the question of exactly what caused the final extinction of the Passenger Pigeon will probably never be answered.

There are some species of birds and mammals whose numbers vary from year to year, frequently in an almost regular cycle. The question arises: Did these cycles occur before civilization so greatly changed the face of the earth? For some of these species the answer is "yes"; there is enough information available to show that the abundance of some kinds of animals varied greatly while these animals were still living in their primitive habitat.

The above two examples point out the need for making observations and keeping records of what is happening today.

Another way in which valuable information may be kept for the future is by preserving areas still in their original and primitive condition. East Tennessee is fortunate in having within the Great Smoky Mountains National Park a great virgin forest where it should survive for all time. Scattered over the State, or in neighboring States, are a few other tracts still almost untouched by man, and we hope that at least some of these can be saved to serve as examples of this country in its natural condition. The ideal would be to have preserved an example of each type of habitat—mountain forest, swamp, marsh, and so on for all the various types, but it is already too late to do this for some types disappeared long ago. Preservation of these tracts remaining would be the best way we now have of keeping this part of the record.

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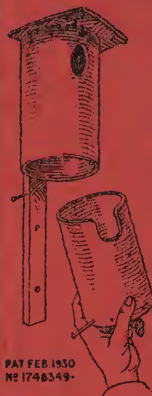
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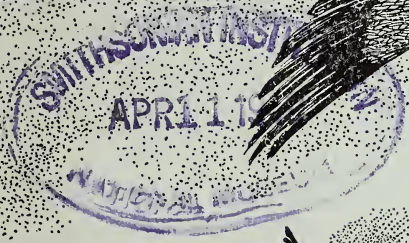
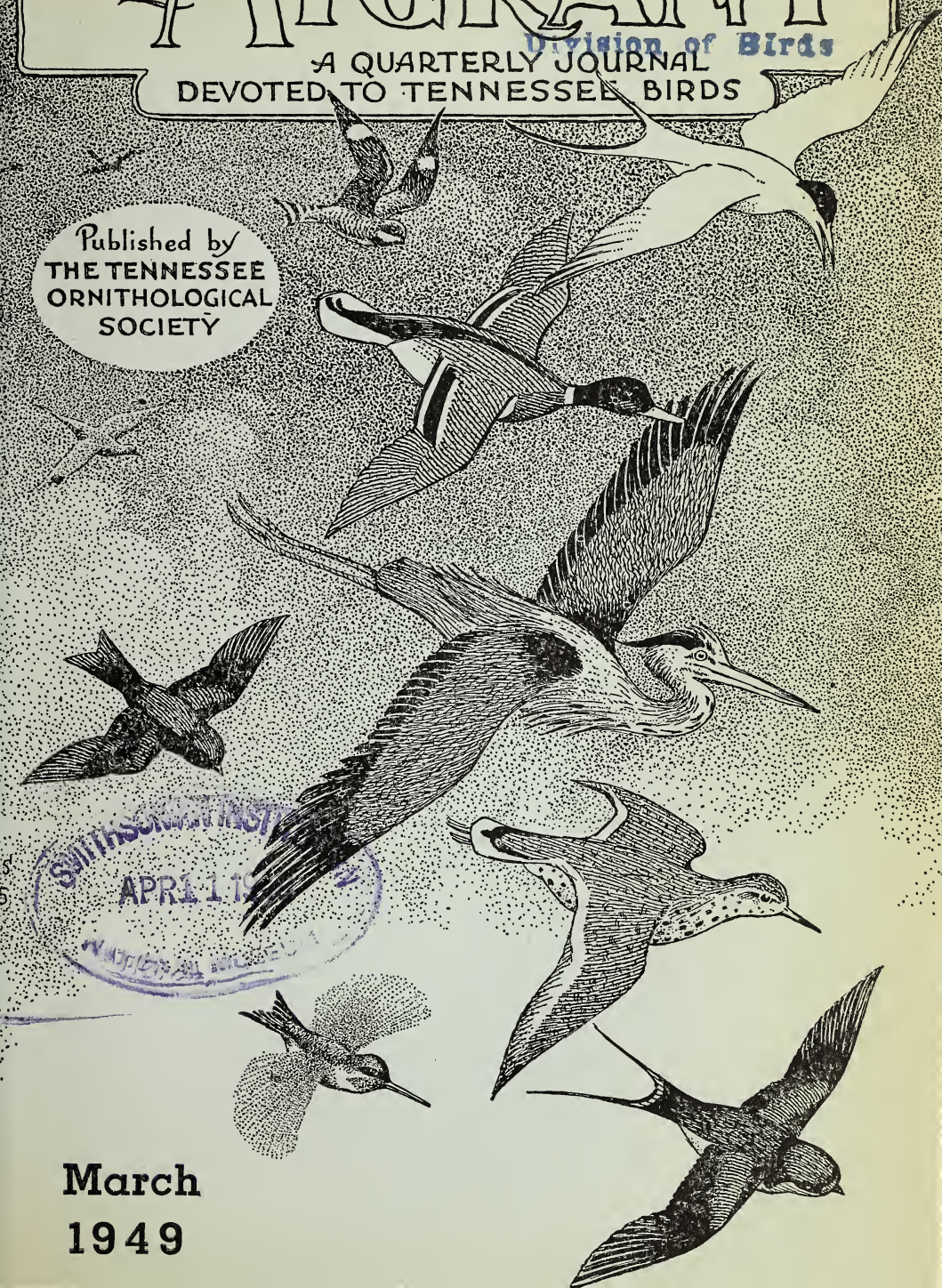
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No. 1

NESTING OF THE MOURNING DOVE AT NASHVILLE

By HARRY C. MONK

The Mourning Dove (*Zenaidura macroura*) has been a fairly common summer resident of the suburbs about my home, and in nearby Centennial Park, throughout the thirty-four years I have lived in the neighborhood. A few nests have been placed in our yard, with others in adjoining properties, while a small colony breeds on the Park hill less than a hundred yards away. The Doves are frequently observed in our yard, foraging or visiting the bird baths, and their cooing comes to us through the long summer days for months each year. In this long continued, close association many nests have been found, and intimate glimpses of the species' breeding habits afforded; this was especially true in 1948, when a pair built five successive nests in our yard and adjoining ones. These interesting experiences led to a review of all my notes on the subject, a summary of which is offered here.

I found my first Dove's nest in 1917, and have found at least one each year since; even in the war years, when I was infrequently home, one or more nests were found. In the period 1934-39 inclusive, when intensive field work was carried on in this home locality, an average of 26 nests per year were found. In the best year the total was 39 nests. My total for all years, 1917 to date, is 397; with those reported in *THE MIGRANT*, and the data made available by Mrs. Laskey, well over four hundred nesting records are at hand. Of course, notes made in my earlier years, when I was learning the trade, are not as complete and detailed as one could wish in every case. This factor has been kept in mind constantly in reviewing the data.

Dove's nests found anywhere in Davidson County are included in the total, but over ninety percent were located in my home territory, either in Centennial Park, or in the residential section adjoining the Park on the west. On the hill in the Park a somewhat stunted hackberry woods covering about fifteen acres (scaled from a map) has always been very attractive to this species, with as many as eight nestings being in progress there at one time. This restricted area, which would not be so much as a pin point on the map of our state, thus offers unusual opportunities for watching the breeding habits of Doves, but it should be realized that such conditions are not to be expected generally.

The Mourning Dove has one of the longest breeding periods of any of our birds. Students in various parts of its vast range agree on this point, and Bent (1932, pp. 415-16), summarizing continent-wide data,

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gives egg dates for ten months of the year. In my own experience nests have been found from March into October, and I can show that eggs have been laid in seven months of the year in this locality.

The length of the breeding period in days, counting from the earliest to the latest dates of actual occupancy of a nest, averaged 158 days for the 23 years in which the Dove's nesting was watched through the whole summer. In one year it was 179 days. When nesting records reported by other observers are added to my own, thus giving earlier or later dates in some years, the average quoted above becomes 164 days, and the longest period is found to be 198 days. Overall length of nesting period, for all years, from the very earliest to the very latest date is 209 days. I have no doubt the Mourning Dove sometimes has a 200 day nesting period in this region. Bear in mind, the above figures concern occupied nests only; they do not take into account the period of dependency of fledgling Doves after they have left their nests, and during which they must still be fed, or starve. The length of this period is virtually unknown, and is quite difficult to determine under field conditions. I have known one case in which a brood was fed for seven days after leaving the nest, and in another instance had reason to believe a bird was fed on the ninth day after it had left its nest. The breeding period of the Dove does not end until the last fledgling has become independent, and this factor will extend the figures shown above.

Mourning Doves begin to show an interest in the approaching breeding season early in the year. They sometimes begin to sing in January; in my experience this happens about one year in four, and usually in the last week of the month. The earliest song date I have seen is Mrs. Laskey's record of January 16, 1949. One can depend on hearing the song in February in any year, except on days of severe weather. At the same time there is a marked tendency for the birds to associate together in pairs, whereas small flocks are the rule in winter. Such two-somes return to their breeding grounds in my home area in January about one year in three, and are always present in February. They readily take up their confiding door-yard ways, contrasting with the wildness of wintering birds noted farther afield. Return to breeding territory, resumption of song, and pairing thus point the way to a new nesting season.

Writers on the habits of Doves have commented (Bent, 1932, p. 403) on the lack of data on the courtship of the Dove, but may not this association in pairs itself constitute courtship? The hawk-like flight maneuver, so often observed in the breeding season, and generally considered a courtship display, has been noted as early as Feb. 13, 1949, Feb. 22, 1942, and Feb. 28, 1928.

In some cases pairs have shown an interest in nest sites quite early. On February 17, 1947, a pair was noted moving from tree to tree in a leisurely manner, walking along the limbs, inspecting crotches, and apparently seeking a nest site. One bird took the lead, the other followed some distance behind. When the first bird paused in one spot the other (male?) joined the first. On February 23, 1933, I was attracted to a pair

of Doves by the peculiar call notes which one of them was uttering. It sounded like "tuck" or "coo", but not the soft voiced song note. One bird was crouched on an old nest platform, turning slowly from side to side, the other being perched close by; I thought the latter was doing the calling. A pair had been in this territory about three weeks, and an early song had been heard a month before. The above dates are about a month ahead of the earliest egg dates. I do not know of any actual nest construction taking place in February, but believe prospective nest sites sometimes may be selected in this month.

My earliest date for an occupied nest is March 13, 1921. It was placed on top the broken stub left when a dead hackberry broke off about twelve feet above the ground. On this elevated stump a Dove was incubating two eggs on a well built nest; she was invisible from the ground beneath the tree. At this date all trees in the vicinity were totally bare. An occupied nest was found on the Peabody campus in 1922 about one week earlier than the above date, and Mrs. Laskey has one nest record which is a few days earlier than my own, but nests with eggs in the first half of March are very rare. In all, March nestings are known in twenty of the past thirty-one years, or about two out of three years. The great majority of eggs laid in this month are laid in the last week of March, and March 25 is a good average date for fresh sets of the first laying in this locality. No March nesting has been started sufficiently early to mature a brood of young to the age of fledging (leaving the nest) in this month, to my knowledge.

In following the progress of the Dove's nesting through the long summer I have tabulated the data for the years of the most systematic field work in my home area, namely, 1934-39 inclusive, 1942, and 1946-1948 inclusive. These ten years were selected solely because the field work was continuous through each season, making the records comparable from year to year, and because extensive notes on Dove's nests were set down each season, showing whatever breeding activity took place, month by month. Many nestings were observed daily through their entire cycle.

Nests are tabulated here by the month in which the eggs were laid for the ten year period above indicated, excluding nests found in outlying areas and never revisited, as well as data from other observers, which was also obtained in other areas. There were 235 nests found in my home locality in the period described, ranging from ten to thirty-nine each year.

Table 1. Total number of Dove nests built each month of the breeding season, in home area, in years 1934-39 inclusive, and 1946-48 inclusive, with percentage of total in each month.

Month	March	April	May	June	July	Aug.	Sept.	Total
Nests	12	46	49	34	46	47	1	235
Percent of Total	5.1	19.6	20.8	14.5	19.6	20.0	0.4	100

Aside from the low figure in June it will be seen that the nesting activity ran uniformly through the summer right up to September. I cannot now account for the apparent drop in mid-summer, and it must be the subject of further study. In almost all years fewer nests were built in June than in other summer months.

The above figures covering a period of years, and derived from the activities of as many as eight pairs in some years, fit in well with the nesting activities of one pair which lived in our yard and adjoining properties in 1948, and which built five successive nests, all but the last being at least partially successful. The first was built in March, the eggs hatching April 10th, and the last was built at the end of July. One followed another so closely that it was impossible to trace the adults from a nest in which fully fledged young stood ready to leave, or from the young which still remained in their nesting tree and were there occasionally fed, to the new nest already building. So, although the birds were not banded, nor otherwise marked, their connection with these successive nestings was clearly apparent.

After watching this pair at such close quarters (often from the house), and studying my other nesting records of past years, I am now convinced that Doves do make repeated nestings (or attempts) for months through the summer, to the amount of five or even more in some cases, and this explains the rather uniform data outlined in Table 1, above. Detailed study of the record of each nesting in the period described above, including plotting on a chart all dates of observation, clearly showed a steady sequence rather closely, as a rule. This strongly suggested to me a picture of a stable, highly prolific breeding population, remaining in their chosen territory through the long summer, and producing brood after brood, barring accident.

The same nests tabulated above were followed through their cycle to learn the percentage of success. In all cases where one or more young were reared from a nest, that nest was listed as successful, in the month in which the brood was fledged. A total of 122 of the 235 nestings were successful, or almost 52 percent. In a study of 592 nests in Alabama, Pearson and Moore (1939, pp. 468-73) indicate a closely similar result. This is a somewhat higher degree of success than is shown by some other studies of bird nesting, and suggests this area is well adapted to the Doves' requirements.

Table 2. Total number of broods leaving nests in each month of the breeding season, in home area, in years of 1934-39 inclusive, 1942, and 1946-48 inclusive, with percentage of total in each month.

Month	April	May	June	July	Aug.	Sept.	Total
Broods	7	26	24	22	22	21	122
Percent of Total	5.3	21.3	19.7	18.0	18.0	17.2	100

The percentages shown above parallel those shown in Table 1 fairly closely, except there is no mid-summer low point, as in the former table. I feel that speculation on this point is futile, pending further field study.

The above table indicates that the Doves' breeding season ends abruptly in September. When these last nestings are considered in more detail, and when additional data from other years is considered, it will be seen that the ending is a more gradual process, and is spread over the whole month.

There are records of the Mourning Dove nesting in September or later in twenty of the past 31 years. In the ten years of the most intensive study such nestings occurred in all but one year. Accordingly, it appears that nestings in September or later are the rule and not the exception in this section.

In the thirty-one year period covered in my notes there are thirty-three nestings of the Mourning Dove known to have been in progress on or after September first. In some years there was but one of these nests, but in 1934 there were six nestings in progress on September first, the latest brood leaving the nest on the 29th. In 1938 the month began with four nestings underway, the last brood leaving its nest on the 8th. In 1948 there were seven nestings at the beginning of the month, the last fledgling leaving on the 29th. Only five of the thirty-three nestings failed in this last month of the season. Of course, many of these nests already contained young on September first, and had already completed the major portion of their cycle. Even so, there has been a very high degree of success in these late nestings, which shows how advantageous they are to the species.

In the following table successful late nestings are arranged in ten day periods, with the broods listed by date on which the young left the nest, to show the gradual decline of breeding activity to its final end for the season. The data in this table are derived from all years, 1917 to date, and from personal records only. The total number of young in these late broods is also shown.

Table 3. Total number of broods of Doves fledged in September or later, in ten day periods, with percentage of total for each period, and total number of young fledged in each period. Personal records, 1917-38 inclusive.

	Sept. 1-10	Sept. 11-20	Sept. 21-30	October	Total
Broods	15	6	6	1	28
Percent of Total	54	21	21	4	100
Young	26	10	10	2	48

Over half of the late broods reared by Doves were fledged in the first ten days of September, and about one-fifth of such broods left their

nesting in the second and third ten day periods of this month. One brood, which is about four percent of the total, left in October. These late broods were predominantly full-sized broods, as twenty of the twenty-eight contained two birds each, six others consisted of but one bird each, and the size of two was not definitely learned, but contained at least one fledgling. This gives an average of 1.71 birds per brood, which compares favorably with the overall average of 1.74 birds per brood for the 122 successful nestings listed in Table 2. Mrs. Nice, in her study of Doves nesting on the campus at Norman, Oklahoma, (1923, p. 54) found an average of 1.7 young per successful brood. There is no loss of reproductive ability in the Dove at the end of its long breeding period.

In Table 3 one October nesting record is listed; this occurred in 1932, and is not included in the ten-year period treated in Tables 1 and 2. The nest was found in Centennial Park on October 2, 1932, at which date it already contained large young. It was visited daily, sometimes twice daily, and I thereby learned the two young left about mid-day of October 7th. Mourning Doves were noted in the immediate vicinity of this nest until the 13th, when the family apparently left the locality. This is the latest date known to me for this region.

Summing up, about one-sixth (17.2%) of Dove broods noted in this study left their nests in September, this proportion agreeing closely with the figures for each of several preceeding months (see Table 2), and these broods were full-sized, comparing favorably in size with the average for all broods reared. There was no sign of failing powers of reproduction at the end of the breeding season. These data make it clear that these latest nestings are a normal, integral part of the species' breeding cycle, and not a freak occurrence. As they were also markedly successful, we can realize the importance of these late broods in the maintenance of the species.

Only a few of the Doves' nests found have been examined at first hand, and no detailed descriptions have been set down in the notes. A very few were so poorly made as to attract attention by this fact, as the one which was placed on a limb over a road, and was so flimsy that the two eggs could be seen clearly from beneath. In another case a nest of the Yellow-billed Cuckoo was used by a Dove after adding a few twigs which did not cover the original lining. The great majority have been much better structures, and did not fit the dictionary definition of "frail" or "flimsy", which are the terms usually employed by writers in discussing the nests of the Mourning Dove.

I prefer to call the nest of the Mourning Dove a "simple" structure, for simple it surely is, but adequate for the purpose intended, and not to be despised. The success of the species over an extensive range proves its nest fits its needs quite well. I am convinced this very simplicity is a necessary factor in the breeding biology of the Dove. It must rear a number of its small broods, one succeeding another, with usually brief intervals between, and must therefore build a number of nests. The ad-

vantage of a simple, easily constructed nest, which can be quickly finished of materials readily found, and can be placed on a wide variety of sites, is readily apparent. Such a nest is all that it needs or has the time to build, if it is to fulfill its reproductive duty.

The lowest nest found measured 42 inches above ground, and another 46 inches. Several others were six feet or less, but of a number of other low nests which were measured, none was less than ten feet high. The great majority I have found were between fifteen and thirty-five feet above the ground, and I am certain none has been as high as fifty feet. Three nests placed in our yard in recent years, and available for close study, were between 25 and 30 feet up, in the upper portions of medium-sized hackberries.

A marked habit of the Mourning Dove is the use of an old nest structure for a nesting site. About 27 percent of all my nests were so placed. The most popular site is one of their own nests, either one remaining intact from the previous year, or one recently vacated by an earlier brood. When a nest is re-used within a short time after one brood has flown, one naturally assumes the same pair are the occupants, but this is not proven. At least forty of the 397 nestings I have listed were a re-use of a nest which had already served once the same season; while nine sites have been used three times in the same season. There is also one record of a nest being used four successive times in one year. I have not tried to count the nests placed on a site used in previous years, because of the element of doubt in identifying the exact site used in a former year; notes are not always sufficiently detailed, nor sites distinctively marked to be surely known. However, this trait is so marked in the birds I have watched that it has been necessary to check every known site, and unused nest on every field trip, in order to be sure no new nesting is overlooked.

A good example of this tendency to use nests more than once is presented by a summary of the record for 1934. Thirty-seven nestings took place on twenty-four sites; fourteen were used once, and eight used twice, while one was used three times and one other used four times. The largest number in use on any day was seven.

The nests of other birds or animals are also sometimes used by Doves. Twenty-three of the nests were placed on nests of the Robin, Brown Thrasher, Mockingbird, Wood Thrush, and Cuckoo. In using the high cupped nest of the Robin the Dove appears to fill the cavity, or bridge it, as the brooding bird seems to rest on top of the rim. In addition to the above, thirteen nests were placed on nests of the gray squirrel, which is common in the study area. Most of these were built in March or April, on old beaten-down nests which were mere platforms of twigs and leaves. A few were built on freshly constructed squirrel nests in mid-summer. One such nest was occupied each night by the squirrel, and the Dove soon deserted (or was driven off?).

Although many nests have failed, very little has been learned as

to the actual cause of failure. A nest occupied one day may be found empty the next visit, without a shred of evidence as to what happened to its occupants. Very few have been destroyed by man, either maliciously or by accident. Storms have taken a small toll only. An unusually severe thunderstorm occurred at sundown, July 22, 1948, and blew down two Doves' nests, but five other occupied Doves' nests survived the blow successfully. The weather bureau reported some gusts of 75 mile-per-hour force in this storm. On many other occasions I have known summer thunderstorms to destroy a few birds' nests, but most, if not all, Doves' nests came through them unscathed. On June 11, 1939, such a storm blew two squabs from a Dove's nest, killing both; but three other occupied nests were unharmed.

One of the nests destroyed last July was located in our yard and I watched with concern as the storm approached. The limb supporting this nest was about one inch in diameter at the nest site, and swayed wildly in each gust of the rising wind. The nest probably traveled ten feet each time the limb swayed from side to side. This movement had the effect of tipping the nest, and at the end of each sweep the brooding adult was seen flapping her wings strongly in order to maintain her position on the nest. In spite of her efforts, the nest was blown apart and the two squabs, already well feathered, fluttered to the ground unharmed, although there exposed to many dangers.

I followed their subsequent fortunes with much interest. Soon after the storm they were placed in a box, and kept in a secure place until the next day, when the box and birds were placed in the nest tree, and in due time visited by the parents. However, both young birds left the box during the day, and at sundown were back on the ground beneath their nest tree, as on the preceeding day. They eluded me in surrounding shrubbery, and spent this night on the ground. One was not again seen, presumably being killed by cats. The other survived three nights on the ground, in a neighbor's garden as was later learned, until on the fourth day after its nest blew apart it was found on a perch ten feet above the ground. The adults were in regular attendance on this bird, and their care enabled it to survive.

Another instance of a brood surviving for five nights and days on the ground after a nest fell apart was observed in August and September, 1948. The nest occupied a very poor site and evidently fell apart on this account. The two well-feathered squabs were found on the ground at the base of the nest tree, where they were being closely brooded by an adult. They were not disturbed but were watched from a distance. They were closely brooded for the first several days, and later attended by one, or often both, parents. They remained close together on the ground as they would have done in the nest, but moved their position a few feet each day, so that they were about thirty feet from the tree when first observed to fly up from the ground. The nest collapsed on August 28th; on September 2nd one bird flew up to a limb about

ten feet off the ground, but its smaller (younger?) nest mate failed to reach the same perch. The next day both flew well.

I judge from these experiences that Doves succeed in rearing many young which fall or are frightened from their nests at a tender age. If the wings are strong enough to break the fall, the fledgling has a chance to survive. This means that a Dove's nest is actually exposed to the dangers that surround all birds nests for about three weeks only, as by this time the young are able to leave the nest in emergencies, and have a fair chance of survival. The Doves I described above were about ten days old when their nests failed; their nestling period was shortened about four days, maybe more.

If any reader has followed my remarks this far, I trust they will agree there is much we can learn by watching the habits of this familiar bird, which probably breeds in every county of the state, and join me in the realization there is a very great deal yet to be learned about it.

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406 AVOCA STREET, NASHVILLE, TENN.

THE ACCIDENT TO MIGRATING BIRDS AT THE NASHVILLE AIRPORT

By WALTER R. SPOFFORD

Approximately three hundred birds were killed at the Nashville Airport during the early morning of Sept. 10, 1948, and while the occurrence might seem not unlike many other well-known accidents to migrating birds, the situation in the present case has some features so unusual as to appear unique. The birds did not hit any obstruction, but appeared to fall out of the air close to the powerful light source at the "ceilometer", and probably the birds were killed by the impact with the ground.

The first report of the accident was made by Mr. Skinner, of the airport staff, to the Nashville Children's Museum. The following account is based upon the observations of Mr. Charles Linville, who was on duty at the ceilometer during the night of Sept. 9-10. He pointed out that the weather had been cloudy during the evening, with a ceiling of 2400 feet at 6:30 P.M., a ground visibility of six miles, a temperature in the sixties, and a four mile NW wind. During the night the cloud level

lifted to over 4000 ft., at midnight, and to 9700 ft. by 4:30 A.M. He first heard birds calling overhead at about midnight, and at 12:30 A.M. they were beginning to fall out of the air close to the ceilometer, most of them being dead when picked up, while a few were apparently only slightly hurt. Mr. Linville further stated that as he looked up the narrow beam of light, directed vertically upward from a base about eight feet above ground, he could see birds fluttering downward from as far up as he could see, many hundred feet up in the air. Although most birds fell within one hundred feet of the light, a few were found as far as two to three hundred feet away. Most of the birds fell in the first hour, but a few fell until almost dawn. Many of the birds were so badly damaged by landing on the runway that they were discarded, but a total of 248 were eventually collected, of which about a dozen were still alive. Several of these were later banded and released by Mrs. Laskey.

The surprising aspect of this situation was the fact that the birds were flying at some altitude, certainly at some hundreds of feet, and they hit no obstacle but merely flew into the beam of light (intense, but only a few yards wide) whereupon (becoming temporarily blinded?) they fell fluttering to the ground. Not only were small birds so affected, but a bittern and six grebes were also victims.

A second factor of importance is that there apparently was not low visibility in the atmosphere, as the clouds were at or above 4000 ft. and rising higher. Since the birds hit no obstacle in their flight, and since poor visibility can be ruled out, the more obvious remaining factor is the ceilometer. While this instrument sends a powerful beam of light directly up into the sky, registering the cloud ceiling up to 15,000 feet (and visible at 30,000 ft.), the light is not different from those in use at other airports, and has been used here at Nashville for several years with no previously known mishap. It is stated that at close range the light is sufficient to temporarily blind a person looking directly into it, and to cause severe burns, but this can hardly be true for any great distance, because the intensity falls off as the inverse square of the distance.

Certainly the light was a most important factor, as all the birds were relatively near it when picked up. Furthermore, Mr. Linville reported that birds entering the beam as far up as he could see were affected. Not all fell, however, as some regained control in the air and flew off. Since the light is a narrow vertical beam, it could not easily have attracted birds; rather, it may have partially blinded those that crossed through the illuminated column.

In a recent analysis of factors responsible for the accident the following night at the Empire State Building in New York City, Pough (1948) states that the birds were riding a southward moving cold air mass, and that as this approached lower New York it was forced lower by an overlying warm air mass moving northward. The birds were continuously forced to lose altitude to remain in the southward air-flow, and being below the top of the Empire State Building as they crossed the city,

several hundred were killed. While Pough suggests that such factors may play a considerable part in most migration accidents, such as those familiar at the Washington Monument, they can have played at best only a contributing factor in the Nashville accident, possibly bringing the moving wave of birds into "range" of some factor related to the light. Against this lies the fact that the weather records do not show any considerable changes in air temperature. The weather was clearing after several days of cloudy weather, with a small amount of rain during Sept. 3-9. Although various speculations may be made, the particular combination of factors responsible for the birds killed at the Nashville Airport remains a mystery. Mr. Linville has offered to let me know at once of any repetition of the occurrence, but the fact that there has been no other similar accident in the several years the light has been in constant use, and the fact that this light is used at other airports without incident makes it probable that unknown factors are actually a necessary precondition.

The birds killed present an interesting sample of a fall flight, and while a number of such examples have been published for the eastern seaboard (eg.: Overing, 1938), this appears to be one of the first reports from the central flyway region. The following list does not include some dozens of specimens disposed of before the museum secured the specimens which were in good condition:

Pied-billed Grebe, 6; American Bittern, 1; Sora Rail, 2; Wood Pewee, 5; **Empidonax** flycatchers, 20; (most were identified by Mrs. Laskey as Yellow-bellied Flycatchers and a sample of 8 sent to Dean Amadon at the American Museum were such, while one other specimen sent in a separate package was identified as probably an Acadian Flycatcher). Olive-backed Thrush, 2; Veery Thrush, 2; Yellow-throated Vireo, 1; Red-eyed Vireo, 95; Black and White Warbler, 9; Prothonotary Warbler, 2; Tennessee Warbler, 7; Nashville Warbler, 1; Yellow Warbler, 4; Magnolia Warbler, 5; Prairie Warbler, 1; Cerulean Warbler, 1; Blackburnian Warbler, 1; Chestnut-sided Warbler, 3; Ovenbird Warbler, 6; Water-thrush Warblers, 9; (seven appeared to be the Northern species, and 2 the Louisiana); Kentucky Warbler, 9; Mourning Warbler, 4; (two of these in the immature plumage appeared to be Connecticut Warblers, but on the basis of a difference in measurement, Mr. Ganier identified them as also Mourning Warblers . . . he preserved the skins); Yellowthroat, 4; Yellow-breasted Chat, 20; Wilson's Warbler, 1; Canada Warbler, 20; Redstart Warbler, 4; Bobolink, 1; Baltimore Oriole, 1; Savannah Sparrow, 1. Total individuals, 248. Species: 33; families represented: 9.

As a sample of the flight, it is not dissimilar in composition to those published by Overing (1938). The largest number of one species is consistently the Red-eyed Vireo, and Roger T. Peterson recently told me he believed it to be the most common eastern woodland bird. The two other numerous birds reported by Overing, the Yellowthroat and Magnolia Warblers, were represented here by only 4 and 5 respectively. On the other hand, whereas Overing reports no Canada Warblers (in three years, '35,

'36, '37) there were 20 in the Nashville flight.

Attempts to determine the general origin of the flight were unavailing, as the species included such Canadian Fauna as the Blackburnian, Wilson's and Canada Warblers, and such more southern forms as the Chats, Kentucky and Cerulean Warblers. It is interesting that Grebes, Rails and a Bittern were casualties falling from the sky over the Nashville ceilometer, while they are not mentioned in the casualty lists of Overing at the Washington Monument. Mr. Pough furnished me with a partial list (105) of the birds picked up at the Empire State building on Sept. 12, the day after the Nashville flight, and this group of 23 species showed no preponderance of Red-eyed Vireos, only 8, as against 16 Oven-birds and 10 Connecticut Warblers.

Although too much space would be consumed in giving a detailed account of the plumage of the birds represented in the Nashville list, the birds were studied at some length by Mrs. Laskey who preserved them for months in deep freeze. As a sample of what such a study shows, of the 20 Canada Warblers 3 had a prominent black necklace, and the crowns gray-blue with black shaft streaks, while the other 17 showed either a subdued necklace or almost no trace, while their crowns were plain olive. Of the 9 Kentuckys, 6 wore a black crown and 3 an olive crown; and of 6 Pied-billed Grebes, 2 had black throats, 2 grayish, and 2 white. It is clear that a student of the fall flight could gain a great deal from a careful study of the percentages of the various plumages presented by each species.

In conclusion, it may be mentioned that it will be interesting to find out if any similar observations have been made at ceilometers at other airports, but at present a short investigation of the literature suggests that the Nashville observation may be unique.

VANDERBILT UNIVERSITY, NASHVILLE, TENN.

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BIRDS COLLIDING WITH WINDOWS

By ROBERT J. DUNBAR

Birds, however keen-eyed they may be, apparently can not see the crystal clear glass of our modern picture windows. If they can see it, they do not seem to recognize it as a barrier, nor do they seem to sense any danger until too late. At least this has been our experience.

Presently there are being contemplated in Oak Ridge, Tennessee, 452

garden type apartments, which represent the first of a series of permanent dwelling units to be constructed here in accordance with the master plan. The design of these apartments follows the latest trend in that one wall of the living room in each apartment will be built almost entirely of glass. From within, most people like the broad expanse of floor to ceiling glass in the living-dining rooms of this type of home; especially when the living-dining room wing looks out on a pleasant garden or wood lot. Yet, for all the comfort and convenience we humans may derive from such ultra modern design, the spacious unbroken walls of clear glass (when placed in some environments) are sure to increase an already too great man-made hazard to bird life.

Although our own living-dining room does not have a glass expanse in proportion to that found in the bolder, more recent dwelling designs, it does have (as do many of the living-rooms in Oak Ridge) two picture windows facing away from the street. The picture window in our dinette is four feet square. Each picture window is framed solidly into the wall making screens unnecessary. However, a screened casement window flanks each side of each picture window giving accent to its width. These windows face North and overlook a grassy plot bounded on the back by a wood lot. From within one has an unobstructed view of the yard and much of the woods. Here we have spent many a pleasant hour with field glass and telescope watching the bird activities.

On several occasions during the first few months of our residence at 106 Glendale Lane we heard a thud or a thump on one or the other of our picture windows, without realizing the cause. Now we know! And whenever we hear the familiar sound we rush to the point of impact. Sometimes we are too late and the bird disappears unidentified, but all too often we find the mute evidence lying beneath the window.

It was in the spring of 1944 that a Hooded Warbler flew into our dinette window and broke its neck. This was not only our first known casualty of this kind, but it was the first Hooded Warbler we had ever seen. A few months later a Wood Thrush killed itself by flying head on into our living room window. This specimen was given to the late William M. Walker (then living in Knoxville, Tennessee) who in turn gave it to Dr. Henry Meyer at the University of Tennessee. About this time a friend, who resides at 106 Norton Road, telephoned a description of a bird that had met its death against one of her picture windows. We drove over to examine the bird and found it to be a female Rose-breasted Grosbeak. Since then we have received many reports of bird fatality caused by the picture windows in Oak Ridge.

During the past five years the death score for our two picture windows is: one Robin, one Flicker, two Wood Thrushes, one Myrtle Warbler, one Ovenbird, one Hooded Warbler, and one Slate-colored Junco. Perhaps there were other birds which met their death while we were away from home, for on several such occasions, when we returned, we found a smudge and bits of feathers upon one of our picture windows.

Since these smudges were similar to those made by birds known to have killed themselves we could only surmise the tragedy. The fact that we did not find the body of the dead bird under the window meant little, for its disappearance could have been attributed to a stray dog or cat or perhaps to the ability of the bird to recover and leave the premises under its own power.

Not all birds are killed by striking our windows! In fact more than a dozen birds fly into our windows for every one that is actually killed. Some strike the window a glancing blow, which merely changes the direction of their flight. Others are momentarily knocked down, but recover almost before they reach the ground. Still others are stunned and do not recover for many minutes. Of those that are stunned a few doubtless receive permanent injury, but of this we have no record.

Perhaps the most amazing thing that we have observed is the bird's exceptionally strong recuperative powers. Two excellent examples attesting this fact follow:

The first took place on July 15, 1948. We were eating breakfast at 6 A.M., when a Wood Thrush struck our dinette window with a loud thump, and dropped to the ground. For a moment it lay still and had every appearance of a dead bird. Then suddenly it began to breathe very deeply. Aside from the deep breathing there was no other signs of life. Twenty minutes passed, then the Thrush lifted its head and blinked its eyes. During the next five minutes it turned its head slowly, very slowly, from side to side as if trying to discover what had happened. Then it stood up on its feet, but made no other effort to move. Two minutes later it folded its wings to their normal place upon its back, after which the deep breathing stopped. Apparently the Thrush was regaining its strength, for it ventured to take one hop, then after a moment's pause another. Headed in a direct line for the nearest cover, at the edge of the woods, the Thrush took two more hops, paused and took two or three more. Repeating this performance over and over again the Thrush took a full seven minutes to reach the cover sixty feet away. Unfortunately any further observation was interrupted by the Thrush's disappearance into the shadows of the foliage.

The second example took place on November 29, 1948, the day I stayed home to nurse a cold. About 1:03 P.M., there was a loud thump on our dinette window and upon investigation we saw a Myrtle Warbler lying motionless on the ground. It had landed right side up, with its left wing spread, yellow rump fully exposed, and its head slumped toward the house, about one foot from the foundation wall. At first its breathing was so weak that it was hardly perceptible, but soon it became labored and rapid. Ten minutes later the Warbler drew its extended wing into its side decreasing the size of the yellow exposure on its rump. At the end of another twelve minutes the bird turned its head once more very slowly from one side to the other, then became still. During the next twenty-five minutes at intervals of from three

to eight minutes the Warbler would turn its head once from one side to the other. With each successive movement it seemingly took a greater interest in life. In fact toward the last of this period it showed nervous alertness when a squirrel dashed up the oak tree about twelve feet away. At 1:52 P.M., the Warbler rose to its feet and slowly moved close to the foundation wall, where it was no longer visible from the closed window. For further observation I opened the casement window every two or three minutes. Each time I did so the bird watched me with a critical eye, then it would inch its way along the wall toward the East corner of the house. One hour and six minutes after the Myrtle Warbler was knocked out it rounded the corner of the house on foot. When I opened the window on the East side of the house it took flight, landing in the branches of an oak on the adjoining lot. Here it flitted from twig to twig a few times, then was lost from view.

Why do birds fly into windows? We can not say, since our observations have usually been after instead of before the impact. In a few instances, however, we suspect that the bird was trying to make an escape and being hard pressed it was not too observant. In such cases no matter how close the pursuing bird may have been it always reacted in time to avoid a similar collision. On one occasion, without any indication that it was being pursued, we watched a Wood Thrush fly out of the woods straight into our window. Strangely enough, House Sparrows seem immune to such window accidents. Although they are at times very active around our house we have yet to see one fly into a window. Can this be accounted for as an instinct developed through countless sparrow-generations of association with windows or can it be that the House Sparrow is so slow on the wing that it has ample time to see and react?

OAK RIDGE, TENN.—Feb. 6, 1949.

THE ROUND TABLE

A FLOCK OF AMERICAN EGRETS IN OCTOBER AT ELIZABETH-TON, TENN.—About 6:00 o'clock in the evening of October 9, 1948, I glanced up from my gardening to see a flock of large white birds bank against the hillside across the Wautauga River, about a half mile from my home, and alight in the tops of some Sycamore trees. With my 10x binoculars I could not be sure of their identity. My son Robert and I drove down behind the Franklin Club while Mrs. Herndon called Mr. Behrend and Mr. Browning. From the parking area we could plainly discern the yellow bill and dark legs which identified them positively as American Egrets (*Casmerodius albus*). Upon being approached closely the entire flock of eleven birds took off and began circling around over our heads, gaining altitude. We sat down to disturb them as little as possible, hoping that they might return. Very soon we saw a fairly large, dark-colored bird at a rather high altitude approaching the flock from the east. When almost directly over the flock, the dark-colored bird dived to-

wards the egrets which made them scatter, squawk, and lose altitude. It was not until this incident occurred that we realized that the aggressor was a Peregrine Falcon. The egrets reassembled in a wavy line formation while the falcon regained altitude. It made another feeble pass at the egrets, but they started off in a southwesterly direction and the falcon circled back and disappeared in the direction from which it came. Mr. Browning appeared on the scene about this time and observed them until they disappeared from view. When the egrets were over Rio Vista, a shot was fired in their general direction, which caused them to break formation and again lose some altitude. They soon recovered their formation, part of the time in V-formation and part of the time in a wavy-front formation. We watched them disappear in the twilight flying in a southwesterly direction to the south of Buffalo Mountain. This was much the latest record and the largest flock which has been observed in our territory.—LEE R. HERNDON, 1533 Burgie Place, Elizabethton, Tenn.

FALL FLIGHT OF HAWKS AT FALL CREEK FALLS STATE PARK

—A large flight of hawks was reported to the writer by Mr. Bridge Bayliss, superintendent of Fall Creek Falls State Park, (near Pikeville, Tenn.) on Sept. 25, 1948. Mr. Bayliss stated that there were probably thousands of hawks there that day, some soaring overhead in small flocks, others at some altitude, while many more were flying close overhead. One man shot twenty-six of them with a shotgun, indicating that many were close to the shooter.

Presumably the main body of birds was the Broad-winged Hawk, *Buteo platypterus*, as it is well known that large numbers of this species pass southward in late September (Spofford, 1946, *Migrant*, pp. 14-15). In the present case, it is probable that some other species were also present. No main hawk flyway has yet been discovered in Tennessee, but the several long high ridges (Clinch Mountain above Knoxville, the eastern escarpment of the Cumberland Plateau, along the Sequatchie watershed, and also possibly along the western escarpment of the Cumberland Plateau, as well as the much higher southern Appalachians to the east of the Tennessee Valley) suggest the possibility of a regular flyway. It is noteworthy that the present situation was on the flat part of the plateau, but relatively close to both the western edge of the Cumberland and the long continuous ridge on the west side of the Sequatchie Valley. It is possible that the flight was so wide as to encompass both, but the observation was limited to the park area. It is difficult to make a similar case for the 1946 flight at Nashville, except for the bare possibility that some of the Highland Rim is used as a flyway, but this would be of short use, and the already dense flock passed over Nashville (Oct. 1, 1946) before the ridge could have been of any assistance in supporting the flight. It seems more probable that relatively dense flocks pass over the southern states at scattered points, unassisted by topography. Mr. Bayliss, however, mentioned that he had seen such flocks once or twice previously, but many years ago.—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tenn.

GOLDEN EAGLE AT HUMP MOUNTAIN, TENN.-N. C.—While pursuing our hawk survey on Hump Mountain, near Shell Creek, Tenn., on October 10, 1948, Dr. A. R. McKinney, his daughter Lorna, my daughter Ann, and I had just finished eating our lunches on the summit when I saw a large bird approaching us from the southeast at an altitude somewhat lower than our position. I moved away from the group to improve my vantage point and saw the bird approach directly, drop its feet, and land on the ground several hundred yards down the mountain side. Its legs were comparatively short, and the bird looked as if it had breeches on. It remained on the ground only a minute or two before taking off for a short flight and then lit on the ground again a short distance from the first point. Its stay on the ground was again very short, and taking off into a strong wind from the south it gained altitude almost effortlessly and with a very few flaps of the wings. Its flight was very graceful and appeared light for such a large bird. It moved off in a southwesterly direction. It had traveled a considerable distance and gained altitude before it banked in the sunlight and revealed its golden brown neck and back, the white patch near the base of the tail and the white patches in the primary wing feathers. It was not until this last performance that I was sure I was observing a Golden Eagle (*Aquila chrysaetos*). It finally disappeared a little to the east of Roan Mountain, still going in a southwesterly direction.—LEE R. HERNDON, 1533 Burgie Place, Elizabethton, Tenn.

BLACK TERNS IN UPPER EAST TENNESSEE—On July 28, while driving alone along Highway 37 between Tri-cities Airport and the South Fork of the Holston River, I saw a flock of about ten birds that, to my inexperienced eye, resembled Nighthawks in shape and size. However, because of the number of birds and lack of identifying white bands or call notes, I stopped to look at them with binoculars. As they circled continuously not very high overhead, I noticed their swallow-like flight, but immediately eliminated the various species of swallows on account of size. They were grayish above and on the underside of the wings, had a dark body, and were white or very light fore and aft. I finally gave up hopes of identification and drove on to my destination, which was a private fish hatchery about five miles away. On arrival, I was presented with a headless bird that had fallen or dived in search of food into a fish pond, where its head had been cut off, apparently by a turtle. It was immediately apparent from the bird in hand that it was the same species as the flock seen overhead a few minutes before, and it was easily identified by the black body and small size, and by use of Peterson's "Guide", as a Black Tern.—ADELE H. WEST, 1007 Walker St., Elizabethton, Tenn.

MORE HOUSE WRENS REPORTED FROM NORTHEASTERN TENNESSEE.—After reading the account by Tyler and Lyle in a recent issue of THE MIGRANT stating that the House Wren has been known to nest

in East Tennessee and having heard this bird frequently as I drove through Bristol, Va., I undertook the following investigation.

On July 4, 1949, 6:00 to 8:30 A.M., the writer located twenty-six House Wrens singing in Bristol, Tennessee. In the evening of the same day six more were located there. At 227 Taylor Street four could be heard singing at the same time. Mr. William Turner, who lives at this address, stated that he has had House Wrens since 1935 when he built a house for them according to Boy Scout manual specifications. The original house is worn out and has been replaced. The new house was occupied by a pair of Wrens which reared eight young birds, which, according to Mr. Turner, left the nest June 28, 1949.

On July 5, 1948, early in the morning, the writer observed fourteen House Wrens in Kingsport, Tenn. Later Mr. Albert Wilkes informed me that House Wrens had nested on his property in Kingsport.

Mrs. Thomas of Elizabethton reported a pair of House Wrens nesting near her home. About July 25, Dr. Herndon and the writer undertook a survey of Elizabethton early in the morning and located Mrs. Thomas's bird but no others. At 9:00 A.M., we went to Bristol and located about thirty there. Most of these were singing. About half were birds I had located three weeks earlier, but the rest were in areas I had not covered. The Wrens were less active and sang less frequently than three weeks before. We left Bristol and drove to Johnson City where we located three more birds, all singing after 11 A.M., on a hot summer day. This makes a total of over sixty House Wrens, and, if only males sing, the number should be doubled. Another question is whether or not most of the Wrens heard singing were those which had just been reared. A survey June 1, followed by a survey five weeks later, should answer this question.—THOMAS W. FINUCANE, Route 1, Blountville, Tenn.

REPORT OF THE T.O.S. PLANNING COMMITTEE

In May 1948 Dr. Herndon appointed a Planning Committee and instructed the members of the committee to set up a research project for the T.O.S. We of the committee considered many types of projects. These were eventually narrowed down to the following: 1. Distribution: geological and seasonal; 2. Nocturnal migration: by telescope; 3. Breeding bird census: Audubon Society technique; 4. Banding; 5. Ecological, and 6. Song period: seasonal and daily. It was decided that it would be best to select one project as a start. We felt that a distributional project was the best type since it would have a wide appeal among the T.O.S. members, could lead to a terminal report, would be practical in that no special knowledge or equipment was needed, and the knowledge gained would be valuable.

As we considered specific problems we came to see the need for setting up a uniform system of records to be adopted by all the chapters of the T.O.S. Before the various chapters can efficiently cooperate they should have the same system of handling their data. The system we recommended to Dr. Herndon was that each chapter set up two files of

4" x 6" cards. One file would contain a brief statement of the seasonal and numerical statuses of each species of bird occurring in the chapter area. The second file would be devoted to individual records of birds which were for some reason unusual. Dr. Herndon has approved the printing of these forms and they will be distributed to the various chapters.

It is too early as yet to know how these forms may be used, yet for the sake of uniformity it is desirable to make some recommendations. First, each chapter should adopt some area with definite limits as their study area. The county in which the chapter lies, or perhaps a larger area also including certain nearby counties, should make a logical study area. The area selected should be small enough so that its bird life is well known to the chapter membership.

On the REGIONAL DISTRIBUTION CARDS under the heading "Seasonal and Numerical Statuses" should go a general statement of the relative commonness of the species during the year, if a permanent resident, or at some particular season if it is not a resident. The Cardinal might be described as a "common permanent resident", or the Canada Goose as a "rare spring and fall transient." The categories used to describe the relative abundance and seasonal statuses of the birds might well be those used by Mr. Ganier in his "Distributional List of the Birds of Tennessee," and the order of filing the species cards that of the A.O.U. Check List.

The determination of the seasonal and numerical statuses could be the subject of one or two chapter meetings.

The T.O.S. INDIVIDUAL RECORD CARD FOR UNUSUAL SPECIES is to be used to provide a permanent record for the occurrence of any species which is unusual in some way. A Grasshopper Sparrow in winter is unusual and a card should be filled in for such a record. The local nesting of a Dickcissel may be unusual. A Golden Eagle is unusual in Tennessee at any time. This card provides space for the names of both an observer and a recorder. The chapter secretary may be the recorder for all records, and such a fact should be a matter of note. For records that were made many years ago it is well to know both the observer and the recorder.

This system has numerous advantages. It should focus the attention of the chapter members on the state of their knowledge of each local species. The status of a number of species will probably be somewhat controversial and therefore worthy of particular study. If Mr. Ganier's list is used as a guide to what may be expected of each chapter, it will probably indicate a number of local peculiarities of distribution. These records will form a storehouse of data that can be used by the T.O.S. Chapters, by the Society as a group, and by national groups as well. As the data are accumulated over a period of years they can be used to indicate changes in abundance. To show such changes the status of each species should be reconsidered periodically, perhaps every ten years. If the abundance has changed, a new card might be attached to the original one for that species.

THE MIGRANT

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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

Many of the chapters already have a system of records set up. Perhaps the information contained in these other systems can be transferred gradually onto these new forms. Certainly the new system will lose a great deal of valuable information if the unusual records from the past are not incorporated into it.

Later we committee members hope to call on the various chapters for distributional data for certain species. We have considered mapping the distribution of various species within the State of Tennessee and publishing the findings in THE MIGRANT. There certainly are many species within the State of Tennessee which present problems in distribution.

JOSEPH C. HOWELL

WALTER SPOFFORD

IGNATIUS VINCENT

NOTES HERE AND THERE

THE ANNUAL MEETING IN MAY

The Annual Meeting of the Tennessee Ornithological Society will be held as usual at Nashville, on Saturday and Sunday, May 7 and 8, 1949. The local committee advises that Saturday morning will be given over to visiting points of ornithological interest in and about the city. A regular meeting is scheduled for the afternoon, the first half of which will be a business meeting and the second half an innovation, the reading of papers by members. The annual dinner will be at 7 P.M. on Saturday, and will be followed by an illustrated talk and the usual informalities. On Sunday morning there will be an all-day field trip with lunch at mid-day, the lunch to be followed by the final business meeting, election of officers, and group photo. A full attendance of members is greatly to be desired. More information about the Annual Meeting and its program may be obtained from the president of the Nashville Chapter, Edward D. Schreiber, 2316 Dixie Place, Nashville 5, Tennessee.

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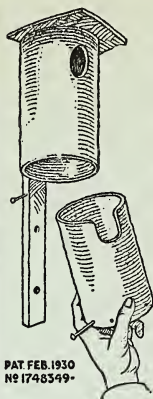
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THE ROLE OF THE AMATEUR IN ORNITHOLOGY¹

By GORDON WILSON

For years I have wanted to write something about the role of the amateur in ornithology. Quite recently I have felt more strongly this urge, because professional ornithologists sometimes have forgotten how much the science owes to hobbyists, how little thus far to professionals. Professionals have always been scarce in this field. Our country has been slow to provide enough income to justify any considerable number of people in choosing ornithology and being reasonably sure of having enough to eat and wear. In a few widely scattered places there are men and women who earn their living by teaching or practicing this profession, but many a state does not have a single person who earns his entire living as a professional. It is necessary to combine ornithology and other related subjects: biology, zoology, conservation, Boy Scout activity, museum work, agricultural supervision. In spite of this part-time status of the science, there are some excellent amateurs or near-professionals in nearly every state. The demand for full-time ornithologists is slowly growing, though it will be many years before a young person can look forward to this work as a career, except in some highly favored places. In the thirty-five years that I have studied birds there has never been one person who made ornithology his career in Kentucky, and I do not recall one in either Tennessee or Indiana, the two other states that I know best. Very obviously, then, for our own time ornithology must be the work of the amateurs, with whatever outside help we can get from the few genuine professionals.

Fortunately, ornithology is not closed to the amateur. It began in America as an amateur hobby, with such eminent names as William Bartram, Thomas Jefferson, and Alexander Wilson. Bartram was basically a botanist. As a young man he made a great botanical trip in sub-tropical America with his illustrious father, John Bartram, the founder of Bartram's Botanical Garden, at Kingsessing, a small village near Philadelphia. In the early years of the Revolutionary War William Bartram explored alone in the southern colonies and collected seeds and plants for great English botanists. On the death of his father he succeeded to the family estate, including the famous garden. There he lived to a ripe old age, sought after by all visiting scientists, full of knowledge of all sorts of science. Among his many interests he listed all the birds of the area, a rather excellent list for the time. But ornithology was just one of his

¹ An address delivered at the Annual Dinner of the T. O. S. in Nashville, Tenn., on May 7, 1949, at the occasion of honoring the three living founders of the Tennessee Ornithological Society.

hobbies and could never have occupied any considerable part of his time. His greatest contribution to ornithology is that he was a close friend to Alexander Wilson when the latter came to teach at Gray's Ferry not far from the garden. Bartram's remarkable scientific library was thrown open to the Scotch weaver-schoolmaster, who soon discovered that his own knowledge of American birds far surpassed that of Catesby, Edwards, and Buffon. In 1806 Wilson gave up school teaching to accept a position with a publishing company which had agreed to bring out his *AMERICAN ORNITHOLOGY*. His duties were by no means wholly scientific, however, for he had to solicit subscribers for his projected work and for an American issue of a well-known cyclopedia of that time. In the seven years that he had yet to live probably not half of his time could be devoted to birds, but in that time he made the science distinctive and added more tested observations than had been accumulated in the preceding century. Fortunately for Wilson, Thomas Jefferson was an early admirer of the Scotch immigrant and subscribed for the new work very early, probably the earliest of the nearly 500 people who ultimately set their names to Wilson's list. Jefferson's interest in ornithology was genuine, but in a life so crammed with interests as his, there could not have been too much time for accurate and painstaking observation. But through the efforts of the two great encouragers and the great ornithologist himself, the science got off to a good start and has never lost the momentum given it by Bartram, Jefferson, and Wilson.

Though he had long been working alone on his drawings of birds, John James Audubon might never have attempted to bring out his expensive and valuable works if it had not been for the appreciative public that Wilson had built up. It must not be forgotten that Audubon was basically a painter, not a scientist. He attained to such greatness as an ornithologist that people still overlook his years of painting portraits and even of teaching music and dancing. These, it is true, were means to an end, but I am merely trying to show that it would still be a stretch of the imagination to call Audubon a professional ornithologist. It would be just as easy to pronounce Columbus as a professional discoverer or Alexander Graham Bell a professional inventor, though Audubon was our first American ornithologist to approach professional status.

The nineteenth century in America saw the rise of many distinguished bird students, most of them people who combined with other scientific studies a sort of sympathetic pursuit of ornithology. That idea has continued to the present day. An overwhelming number of the people who can recognize more than two dozen species of birds are not professional students or teachers in this field but are business and professional people who find spare time occasionally to keep up a continuous study of birds. There is no exact way of knowing how many people make annual lists of migrants or nesters. Many of these belong to the numerous local, state, or national organizations, but I have been greatly surprised at the number who have never joined anything but keep up their persistent studies. Nearly every state has one or more live clubs, some of them out-

standing for their continuing efforts to enlist new members and promote new studies. The Audubon Societies, through their school service and summer camps, are reaching and educating uncounted millions of the younger generation. Through nationally planned lectures and screen tours, bird students are being kept up to date in what is being done to keep the birds of our land intact for future times. Such features as the annual Christmas Bird Count enlist the energies of thousands of people who may have only a brief connection with ornithology itself but take pride in finding every species and individual in a given area on a winter day. Dozens of small magazines have come and gone, but their published data are now a part of the learned collections that professionals are gradually publishing.

Some people have thought that a taxonomic study of birds is sufficient and have been willing to stop with finding all the species and subspecies. But this task, however much labor it entails, is not the last word, any more than anatomy is the last word in any study of mankind and its purpose on earth. Suppose we tried to judge former peoples of our country only by their skeletons and their kitchen middens, that is, by what could be collected and arranged in a museum. These exhibits would be vastly interesting, of course, but the elusive **live** Indian, for instance, would somehow escape. Now that taxonomy is virtually complete, we need more and more studies of the bird as a live organism; we need to add flesh and blood and feathers and song and personality to dry bones and museum specimens. It was and is a great sport to search for new species, but few of the bird students now alive can ever hope to have the satisfaction of adding a new name to ornithology. This phase of bird study must be left in our time in the hands of genuine professionals, who have all the exacting machinery for determining what is or is not new. Meanwhile the bird is here, a species and also countless numbers of individuals. The racial characteristics persist and can be learned by each succeeding generation of observers. But even a bird, no matter how much it seems to be like all others of its kind, is an individual and requires personal study. Endless observation, carried out over whole lifetimes, are needed to round out our knowledge of even the most common species. We might learn from John Burroughs and his statement about the Woodchuck: that he had studied the species all his life and was still finding new facts about it. Even the commonest and best-known bird is still a remarkable personality to study.

One of my best companions on the trails has called my attention to how few published accounts there are of the nesting of many species of birds. For some species there are no detailed accounts in a whole state. Who has watched a given species and thereby become a sort of Boswell to Doctor Johnson? Who is skilled enough in sounds to have recorded all the variations in the songs of any given species? Who has lived long enough and carefully enough to speak finally as to the canon of summer residents in any state, however small? What one person whom you know can identify the call notes and songs of all the nesting species and their

young? I realize that some of these questions can be answered fairly readily by a small number of people scattered all over the country, but the field is so large that it is slightly too much to expect any one person to know so much. Nature may have given me good ears and you good eyes. Our patience as students may be equally great, but there are borders that become rock-walled barriers to each of us. As long as any significant phase of bird life remains unknown or known only to a select few, that phase should become the goal of many of us. Like Bluebeard's inquisitive wife, we should want to know what is behind every door, even though a forbidden one.

A generation ago people thought that the great bird artists had finished the work of painting all the birds. We were almost as much mistaken as John Ruskin, who declared that all the great poetry had been written before our time. With the coming of modern cameras in black and white, with moving pictures, and with Kodachromes, new fields have been opened up to a type of artistry that Wilson and Audubon could never have dreamed of. Great artists in our time, such as George Miksch Sutton, are adding new fields to art by portraying the bird as a personality rather than as a type. Even a pencil sketch by Dr. Sutton gives an ornithologist something of the same thrill as the diary of a great man might give a professional biographer. Roger Tory Peterson, in his appeal to the field observer, has caught the attitude of birds that earlier artists could not have arrived at except accidentally, since split-second photography was not then known. The hobbyist has an opportunity to extend the range of bird artistry quite as much as the range of studies of birds as personalities.

Bird gardening is now for many people a fine art. Feeding stations, a measure of protection, a persistent friendliness with the birds have brought some of the rare and unusual birds to our very doors and made them a part of even big-city life. With the birds so close at hand we are gradually learning many of the behaviour patterns that have been unknown before. We can observe the home life of the birds and the distribution of labor between male and female. Coupled with bird-banding, bird gardening is yielding thousands of pertinent facts about the age of birds, their wanderings, their persistence in any given area. Amateurs are doing some of the best work in ornithology in this very field. To read a list of licensed bird banders is to read the names of a cross section of the whole science; for the professionals are relatively few in number, the part-time professionals and amateurs are very much in the majority. It was a satisfaction to know that the finding of the winter home of the Chimney Swift also brought to light the long and patient banding activities of several amateurs in our very part of the country, only one of whom could be called a professional on part-time status.

Through the many years that I have studied birds nothing has intrigued me more than migration. To the outsider the hundreds of records of the comings and goings of birds must seem very inconsequential. But to the observer these records bring back all the strange joy of seeing again each year the friends we have "loved long since and lost the while."

When a Brown Thrasher appears year after year in the same bush or tree on approximately the same day, regardless of the weather, we feel that we have something permanent to tie to in "all the weary weight of this unintelligible world." The years have been many since I heard my first Wood Thrush, but the flute-like song of this bird sounds to me exactly like the one that set me a-thrill as a country lad when I fished in our little creek or searched for Sweet Willams or Bluebells along its shore. The immortality of the bird song, as expressed in Keat's "Ode to the Nightingale", impresses us all over again:

"Thou wast not born for death, immortal bird!
No hungry generations tread thee down;
The voice I hear this passing night was heard
In ancient days by emperor and clown;
Perhaps the selfsame song that found a path
Through the sad heart of Ruth, when, sick for home,
She stood in tears amid the alien corn;
The same that oftentimes hath
Charmed magic casements, opening on the foam
Of perilous seas, in faery lands forlorn."

The amateur has an opportunity to link his name with a place, to give some small spot of earth a "local habitation and a name." None of us, maybe, will be so associated with one place as Henry David Thoreau was with Walden Pond, so that a great state will dedicate the spot as a park, and wanderers from all the civilized world will come and add a stone to a cairn in our memory. It is also probable that our little territory may never become as famous as Gilbert White's Selborne. But it is a satisfaction to know that for many a state or place as long as men read or keep records there are names that will be known and respected. More than sixty years ago C. W. Beckham studied birds at Bardstown, Kentucky; today a study of birds in my native state must take into account the work of this pioneer ornithologist. Hovey Lake, an ox-bow loop of the Ohio River in southern Indiana, was so long and so lovingly studied by Samuel E. Perkins that the name of one suggests the name of the other. Dr. A. A. Allen and Ithaca, New York; Mr. E. L. McIlhenny and Avery Island, Louisiana; Alexander Sprunt and the Everglades of Florida; August Derleth and Sac Prairie, Wisconsin—these are only a few of the places and men that are inseparable.

It is peculiarly fitting that we have met here tonight to do honor to three great amateurs, who, with their two late comrades, started in 1905 on the trail of all the birds of Tennessee from the marshes of Reelfoot Lake to the cool tops of the Great Smokies. Of these three amateurs each has had a distinctive contribution to give to his time and to posterity. Dr. George R. Mayfield, professionally a linguist and serving faithfully most of his grownup life at Vanderbilt, has had a keen eye to see and a keener ear to hear. Mr. Albert F. Ganier, a civil engineer for more than forty years, though hampered in some fields where so many of us have been peculiarly blessed, has cultivated his eyes until he can come as near as it is humanly possible to hearing with them. Mr. Dixon Mer-

ritt, a professional journalist whose voice has been lifted for the better part of a half century in behalf of conservation, has been blessed with words and images. Emerson, in his essay "The Poet", says that mankind is divided into three classes: the Doer, the Knower, the Sayer. Borrowing his divisions of humanity, I want to declare that this Society has had its Hearer, Dr. Mayfield; its Seer, Mr. Ganier; its Sayer, Mr. Merritt. Through long years of a close friendship that reads like a modern Damon and Pythias story, they have dedicated their combined talents to make of Tennessee ornithology one of the distinctive contributions to the whole science. All have written well, all have spoken well, all have spent endless hours in observing birds in every season. They have reflected in every activity of their lives the sane, poised philosophy that comes only to those who live with nature. As long as men study birds, the work of these men will have to be reckoned with. The unkind years have taken away some of their youth, but it will take some of Horace's "imber edax", his "innumerable annorum series", his "fuga temporum" to destroy their perennial interest in the live personalities of the woods, the fields, the streams, and the marshes of their own Tennessee.

BOWLING GREEN, KENTUCKY.

A SURVEY OF UPPER EAST TENNESSEE BIRDS AND THEIR HABITATS

By FRED W. BEHREND

Information on bird life of Upper East Tennessee has been rather fragmentary and obscure. In weighing the reasons for this deficiency, consider in the first place that until recent years no Upper East Tennessee community except Johnson City, oldest city in the area, has had the benefit of organized bird study and that the number of individuals in some of the other communities who are known to have been engaged in the study of bird life in other than a casual way has been small. The formation of chapters of the Tennessee Ornithological Society in Elizabethton, Greeneville, and Kingsport during the past five years has brought about greater activity in the exploration of the area under consideration. Their co-operation in supplementing the data secured by each of them in their respective territories will doubtless result in an ultimately well balanced source of information on bird life in Upper East Tennessee.

This article will confine itself to the territory comprised of the counties of Johnson, Sullivan, Carter, Washington, Unicoi, and the eastern half of Greene and Hawkins Counties, geographically referred to as Upper East Tennessee. It borders in the East and South on North Carolina and in the North on the extreme southwestern corner of Virginia. Its length, diagonally from Northeast to Southwest, is approximately 65 miles, its maximum width about 45 miles. The elevation of the low country of this area which constitutes the easternmost part of the Tennessee Valley ranges from roughly 1200 to 1800 ft. Here farmland, pastures, and woodland pre-

vail. From the North, out of Virginia and in the extreme northwestern part of the area under review, extend the Clinch Mountains at an altitude of from 4200 ft. to 2000 ft. Along the southeastern boundary of the Valley extends the Southern Appalachian Mountain chain in a southwestern direction, part of its crest forming the Tennessee-North Carolina border. Transverse ridges connect with the Blue Ridge Mountain chain in North Carolina which runs parallel to the Appalachian Mountain chain. The structure of the mountains on either side of the Tennessee-North Carolina border and the fauna and flora being alike, the same species of birds in like environment are common to either side of the State Line. To procure as comprehensive a picture of bird life in the surrounding mountainous territory as possible, the Elizabethton Chapter of T. O. S., from its inception, extended observations into Mitchell and Avery Counties of North Carolina, both of which are adjacent to Carter County. This has led to excursions to Grandfather Mountain (5964 ft.) in the Blue Ridge Mountains, Beech Mountain (5522 ft.), and Hump Mountain (5587 ft.). A majority of the ridges below the crest of the Appalachian chain as well as some of the transverse ridges on the Tennessee side reach altitudes of from 3500 to 4500 ft. and a sizeable number surpass this mark with various points extending upward to the 5500 ft. limit. The approaches of most of the mountain ranges of the Southern Appalachian chain are densely forested. A variety of deciduous trees is interspersed with conifers, principally pines and hemlock. Substantial stands of spruce and fir are characteristic of the upper reaches of Roan Mountain. This same condition obtains for not too distant Grandfather Mountain in the Blue Ridge Mountains. Some of the higher mountain tops, as for instance Hump Mountain, Yellow Mountain, Grassy Bald Mountain, Little Roan Mountain, Beauty Spot, Big Bald Mountain, Cold Spring Mountain, and Jones Meadow near Camp Creek Bald, have substantially no other growth than grass or weeds above the timberline. They are generally referred to as "balds".

Principal streams in Upper East Tennessee are the South Fork of Holston River, Watauga River, Elk River, Doe River and Nolichucky River. There are a number of smaller streams in Upper East Tennessee which feed one or the other of the rivers mentioned. These smaller streams in turn are fed, especially in the mountain territory, by numerous branches.

Prior to the middle of 1947, Upper East Tennessee had but two lakes, each of small size. They were Wilbur Lake above Horseshoe Dam approximately eight miles east of Elizabethton, and David Crockett Lake above Greeneville Dam approximately eight miles south of Greeneville. Since, the number of lakes in Upper East Tennessee has increased by three, all of them situated in Carter County. In September 1947, privately built Lake Phillip Nelson of about one mile length and 750 ft. width, at 3500 ft. altitude in the mountain valley between Ripshin Ridge and Little Rock Knob near the southwestern corner of Carter County, had filled. On December 1, 1948, impoundment of TVA-created Watauga Lake began. Its lower end is approximately 12 miles driving distance east of Elizabethton; the upper end, reaching into Johnson County, approximately 28 miles. Its

shoreline is 107 miles long and extremely rugged. Its maximum elevation is 1975 ft. Iron Mountain above its northern shoreline and Pond Mountain above the southern shoreline are both in excess of 3500 feet in altitude. Another mountain lake, of small size, on private property, has been completed in the spring of 1949. It shall be referred to as Ripshin Lake. At 3700 ft. altitude, it is some two miles distant from the western end of Lake Phillip Nelson and below 4400 ft. high Ripshin Ridge.

Aside from the main Upper East Tennessee Valley, there are few valleys in the area under review. The most interesting from the point of view of bird study is Shady Valley in Johnson County which lies between the 4000 ft. high Holston Mountain and Iron Mountain ranges. Cross Mountain, a transverse ridge, connects these two ranges at the southwestern end of Shady Valley.

Upper East Tennessee is distinguished from most of Tennessee in that it lies in the Transition Zone of the Austral Region and that, embedded therein on the higher mountains, is a narrow strip of the Canadian Zone. This latter factor is of considerable interest inasmuch as it causes certain species of birds to occur in the territory involved that are not found elsewhere in the breeding season, to-wit, Carolina Junco, Golden-crowned Kinglet, Winter Wren, Red-breasted Nuthatch, Black-capped Chickadee, Veery, Canada and Cairn's Warblers, to name a few. The writer, on the basis of his observations of the past five years, would consider Roan Mountain and Grandfather Mountain with their stands of spruce and balsam most typical of Canadian Zone bird life as it applies to this region. Most of the birds named above stay at altitudes in excess of 5000 ft. On trips from Carver's Gap below Roan Mountain along the ridge of Grassy Bald Mountain and over Yellow Mountain to Hump Mountain, a good deal of which is open "bald", on the weekend of July 20 to 21, 1946, and June 26 to 27, 1948, in the reverse direction, altitudes from 4681 ft. to 5900 ft., the following additional species of birds, of which some doubtless breed at these altitudes, were observed by the writer: White-breasted Nuthatch, Rose-breasted Grosbeak, Mountain Vireo, Towhee, Catbird, Brown Thrasher, Yellow-breasted Chat, Blue Jay, Flicker, Downy Woodpecker, Carolina Wren (at about 5000 ft.), Red-eyed Vireo, Goldfinch, Indigo Bunting (4 at approximately 5150 ft.), Field Sparrow, Song Sparrow, Vesper Sparrow, Meadowlark (at 5500 ft.), Ovenbird, Chestnut-sided Warbler, Black-throated Green Warbler, Maryland Yellow Throat, Ruffed Grouse, and Crow. On another trip to Hump Mountain on July 20, 1947, there were observed by Dr. Aubrey McKinney of the Elizabethton Chapter of T.O.S. and the writer at altitudes of from 5000 to 5500 ft. Vesper Sparrow, Prairie Horned Lark, Meadow Lark, Indigo Bunting, Junco, Black and White Warbler, Canada Warbler, Cairn's Warbler, and Sparrow Hawk (3). Late summer and early fall are very opportune times for trips to Hump Mountain, which preferably may be approached from Elk Park in North Carolina at 3100 ft altitude, approximately 28 miles southeast of Elizabethton, combining observation of warbler migration on the ascent through woodlands with Hawk migration while on the top of Hump Mountain. This has been a favorite

activity with members of the Elizabethton Chapter of T.O.S. Occasionally, these trips have been for naught owing to dense fog or high winds of gale force on the mountain, but on a good many beautiful early fall days hawk observation was favorable and then such species as Red-tailed, Cooper's, Sharp-shinned, Sparrow, and Marsh Hawks as well as Turkey Vultures were in evidence. It may seem strange to find the Marsh Hawk in company of the other species mentioned. However, this is explained by the character of the territory; the openness of the slopes with practically no tree growth seems ideally suited for the Marsh Hawk to hunt its quarry, which it does in skimming low over the ground. On Hump Mountain, too, both the Bald Eagle and Golden Eagle have been observed by Dr. Herndon, and the Bald Eagle only by the writer. In late summer and fall, the presence of the American Pipit near the top of Hump Mountain is almost a certainty. This latter bird has also been seen on other "balds" of the Appalachian Mountain crest, namely Big Bald Mountain in Unicoi County and Jones Meadow below Camp Creek Bald in Greene County.

Although proof needs to be furnished to be absolutely sure, it can reasonably be assumed that at altitudes cited the birds enumerated before can be found all along the crest of the Appalachian Mountains in Upper East Tennessee; and to these may be added Brown Creeper, Scarlet Tanager, Least Flycatcher, and Hummingbird as resident on Grandfather Mountain in summer, and likewise as regards the Hummingbird during the rhododendron bloom on Roan Mountain.

Of equal interest is the bird life on the approaches of most of these mountains; perhaps more so than on the mountain tops, as on the approaches one encounters a greater variety of birds, at least at the time of Spring and Fall migration. A. F. Ganiel points out in his article "Summer Birds Of Roan Mountain" (MIGRANT Vol. VII, No. 4, December, 1936) that no definite separation of the species found "on top" from those found on the slopes at much lower altitudes was made by ornithologists who visited this mountain in summer many years ago. Likely the following species will be listed as one walks a mountain road or stream in the woods or through a pasture: Bluebird, Cardinal, Phoebe, Pewee, Chipping Sparrow, Bewick's Wren, House Wren, Cedar Waxwing, Yellow Warbler, Hooded Warbler, Kentucky Warbler, Worm-eating Warbler, Louisiana Water-Thrush, Acadian Flycatcher, Wood Thrush, Carolina Chickadee, and Titmouse. In Spring migration, Blackburnian, Golden-winged, and Parula Warblers have regularly been observed on the approaches of Roan Mountain; in Fall migration Redstart and Tennessee Warblers. Cape May and Magnolia Warblers were found in Fall migration on top of Roan Mountain, the former at 5500 ft., the latter at 6100 ft.

An unusual sight, but one quite possible, in the Upper East Tennessee area is that of the Raven. This bird is of rare occurrence, and its nesting places are not well known. There have been records of it on Grandfather Mountain a number of years ago. In recent years the writer, and others on occasion, have observed it on Roan Mountain (May 1945: 1, May 1946: 1, September 1948: 1), on White Top in the Blue Ridge Mountains

in Eastern Virginia (May 1945: 1), on Hump Mountain (October 1946: 1), September 1947: a pair), on Table Rock in the Blue Ridge Mountains in North Carolina (June 1947: 1, August 1947: a pair).

Little has been done in making observations of birds in the mountains of Upper East Tennessee during the winter. Snow and ice on secondary and primitive mountain roads and their softness after thaws render them temporarily impassable, make travel hazardous, and even prevent reaching certain preferred localities that are never easily accessible. Furthermore, strong wind and low clouds that result in poor visibility frequently interfere with observation at those altitudes. Three trips to the Unaka Mountain and Big Bald Mountain sections from late November to early March undertaken by the writer revealed the presence of the following species: Chickadee, Titmouse, Carolina Wren, Golden-crowned Kinglet, Red-breasted Nuthatch, White-breasted Nuthatch, Downy, Hairy and Pileated Woodpeckers, Robin, Carolina Junco, Towhee, Goldfinch, Bluebird, Blue Jay, Ruffed Grouse, Crow. A Hermit Thrush seen in late November probably was a bird on migration. At lower altitudes, though, this species is a winter resident in Upper East Tennessee.

Year-around birding in Upper East Tennessee's transition zone is anything but static. Except for a period of two months in winter, one kind or another of birds are on the move into, out of, or through the area. The following species are permanent residents: Black and Turkey Vultures, Red-tailed, Red-shouldered, Cooper's, Sharp-shinned and Sparrow Hawks, Ruffed Grouse, Bobwhite, Killdeer, Mourning Dove, Screech Owl, Kingfisher, Flicker, Pileated, Red-bellied, Red-headed, Hairy and Downy Woodpeckers, Phoebe, Prairie Horned Lark, Blue Jay, Crow, White-breasted and Red-breasted Nuthatches, Carolina and Bewick's Wrens, Mockingbird, Robin, Bluebird, Cedar Waxwing, Starling, Meadowlark, Cardinal, Goldfinch, Towhee, Field and Song Sparrows. Summer residents of the Transition Zone in Upper East Tennessee are Great Blue Heron, Green Heron, Broad-winged Hawk, Yellow-billed and Black-billed Cuckoos, Woodcock, Whip-poor-will, Nighthawk, Chimney Swift, Hummingbird, Kingbird, Acadian Flycatcher, Wood Pewee, Rough-winged Swallow, Barn Swallow, Cliff Swallow, Purple Martin, House Wren, Catbird, Brown Thrasher, Wood Thrush, Blue-Gray Gnatcatcher, White-eyed Vireo, Red-eyed Vireo, Warbling Vireo, Black and White, Black-throated Green, Worm-eating, Golden-winged, Parula, Yellow, Prairie, Kentucky, and Hooded Warblers, Louisiana Water Thrush, Ovenbird, Redstart, Maryland Yellow Throat, Yellow-breasted Chat, Red-winged Blackbird, Orchard and Baltimore Orioles, Scarlet and Summer Tanagers, Grackle, Indigo Bunting, Chipping and Grasshopper Sparrows. In midsummer appear, not always regularly, American Egret and Little Blue Heron, summer visitants of the area. The list of winter residents includes Yellow-bellied Sapsucker, Brown Creeper, Hermit Thrush, Ruby-crowned Kinglet, Migrant Shrike, Myrtle Warbler, Pine Warbler, Purple Finch, Juncos, White-crowned, White-throated, Fox and Swamp Sparrows, Wilson Snipe. Most of them stay into March, some of them

later, as for instance the White-crowned Sparrow which has been seen as late as May 22.

Spring and Fall migration bring into the Upper East Tennessee territory a variety of birds whose stay varies from a few days for warblers, particularly in the Spring, to several weeks for the Osprey. The newly formed lakes have attracted water and shore birds that previously apparently by-passed the area. A comparison of observations of the Elizabethton Chapter for the past years for instance shows a substantial increase in the number of species of waterfowl and shorebirds as well as total number of birds during the last two years. This Chapter's list includes 19 species of ducks, namely, Mallard, Black Duck, Baldpate, Pintail, Blue-winged Teal, Shoveller, Wood Duck, Redhead, Ring-necked Duck, Canvasback, Lesser Scaup, American Golden-eye, Bufflehead, Ruddy Duck, Hooded Merganser, American Merganser, Red-breasted Merganser, Gadwall, Green-winged Teal. In addition, Coot and Pied-billed Grebe have become fairly common, and it is believed that the latter breeds on Lake Phillip Nelson. Other Spring and Fall migrants among the water and shore birds that occur in the area regularly or have been observed occasionally are, in addition to those mentioned earlier in this article, Canada Goose, Horned Grebe, Common Loon, Double-crested Cormorant, Herring Gull, Ring-billed Gull, Bonaparte's Gull, Common Tern, Black Tern, Lesser and Greater Yellow Legs, Spotted, Solitary, Western, Least, and Semipalmated Sandpipers, Semipalmated Plover, Upland Plover. Interestingly, as regards water birds observed on Watauga Lake this Spring, there is a striking parallel between findings as compared with those of James Trent, Jr., and George Foster, Jr., on Norris Lake in the Spring of 1936 after the formation of that lake (MIGRANT Vol. VII, No. 2, June 1936).

Warbler migration through Upper East Tennessee in Spring and Fall includes most species found in migration throughout the State. Rarities among the Warblers listed on single occasions have been Lawrence's and Swainson's and, it is believed, Connecticut, Mourning, Prothonotary and Sycamore.

Of unusual interest in bird life in Upper East Tennessee has been the observation of Dickcissel and Chuck-Wills-Widow in the Greeneville Chapter's territory; of Bachman Sparrows, large numbers of House Wrens, and Pigeon Hawk in the Kingsport Chapter's territory; and of Duck Hawk, Philadelphia Vireo, Eastern Evening Grosbeak and Snow Bunting in the Elizabethton Chapter's territory. It is reasonable to believe that a wedge of the Upper Austral Zone reaching into the northwestern part of the area in review causes some differences between the bird life in the territories within which the respective chapters operate.

Each of the chapters of the area has its pet territories, favorite bird study trips by the Kingsport Chapter are to the nearby Bays Mountains, Tri-City Airport, where Prairie Horned Lark, Pipit, and Upland Plover have been listed, and Buzzard Roost on Holston River, known for the aggregation of Turkey and Black Vultures in substantial numbers at roosting time. Greeneville Chapter's operations cover mainly the southeastern

end of Bays Mountains, the farming country in the vicinity of Lick Creek, and the Appalachian Mountains, particularly the Camp Creek Bald section. Johnson City does not have chapter activity at present, but individual trips by Messrs. Bruce P. Tyler and Robert B. Lyle in recent years cover primarily the northern and northwestern part of Johnson City, the Unaka Mountain territory in Unicoi County, and Shady Valley in Johnson County. In Shady Valley and on Roan Mountain as well as in other places in the mountains these two pioneers of bird study in Upper East Tennessee have done invaluable research, the findings of which to preserve would be extremely desirable. The Elizabethton Chapter has concentrated on its stream courses from one end to the other and their bottomlands (Watauga and Doe Rivers), as have the Greeneville and Kingsport Chapters on theirs (Nolichucky and Holston Rivers, respectively), worked over the lower mountains in the immediate vicinity of town (especially Lynn Mountain), the hills and valleys on all sides of town, Shady Valley in Johnson County, surroundings of Lake Phillip Nelson and Watauga Lake, and the nearer high mountains of the Appalachian Chain and the Blue Ridge dealt with earlier in this article. Such trips have been taken as Chapter activities as well as individually by members. Moreover, there has been mutual participation in census trips among the chapters of T.O.S. in the Upper East Tennessee area.

In conclusion, it may be said that although steady work has been and is being done to obtain a more comprehensive picture of bird life in the Upper East Tennessee area, intensive further systematic study on the part of the members of the chapters of T.O.S. will be required to accomplish this task. And those bird students in other parts of the State and in other states who are inclined to spend vacation time in this recreationally fast developing Upper East Tennessee mountain section there will find unlimited opportunities to enrich their ornithological experiences and at the same time to contribute to information on bird life in this area.

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THE 1949 SPRING FIELD DAYS

The Spring Field Days conducted by the various chapters of the T. O. S. in 1949 differed in two respects from those of previous years. There were more of them, because of the recently formed Kingsport Chapter, and they were scattered over a longer time, from April 24 to May 15. The total number of species seen for the entire State was 170. Interesting comparisons can be made between the birds seen at the different localities, from Memphis to Roan Mountain at each extreme end of the State, and on the different dates. Painted Buntings and Dickcissels appeared only in the western or central parts of the State, Whip-poor-wills and Song Sparrows only in the eastern. House Wrens were seen only in the northeastern corner. Only twenty-two species were observed at all localities; thirty-two were observed at all but Roan Mountain; twenty-nine were reported

from only one of the localities. The effect of the different dates on which the observations were made can be seen in such species as the Ruby-crowned Kinglet and the Pine Siskin, seen only on the earlier dates. The separate Field Days are described below and the birds seen are summarized in the Table. The localities are listed in the order of the dates on which their Field Day was held.

Greeneville. April 24, 1949—around Greeneville, including Tusculum College, Pilot Knob, Nevius and Reed Farms, Mercer Farm, Roaring Fork Creek, and David Crockett Lake. 5:00 A.M. to 8:00 P.M. Temperature 60 to 78, windy and partly overcast from 11:00 A.M. to 3:00 P.M. Twelve people participated.

Knoxville. May 1, 1949—within an area of 7½ miles radius centered on Sharp's Gap, which is on the northwest side of Knoxville. Weather warm and clear. About a dozen parties, totalling about forty people, worked separately, starting at dawn, until they all met at the Ijams Farm at noon. This Field Day was named "Harry Ijams Day" in honor of that veteran bird student of Knoxville, and the artist who drew THE MIGRANT's cover. A King Rail's nest containing twelve eggs was found.

Elizabethton. May 1, 1949—Elizabethton and vicinity. About eighteen people participated.

Roan Mountain. May 1, 1949—from an elevation of 3500 feet up the road to the top (elevation 6313 feet) and return. Fred W. Behrend.

Nashville. May 8, 1949—most of the observations were made at Edwin Warner Park, with a few birds reported from neighboring areas. This Field Day was held in connection with the annual meeting of the T. O. S. Weather was clear to showers and warm. About fifty people were present. Two young Black Vultures in the cavity of a hollow tree were viewed by many. The Connecticut Warbler was identified by Mrs. R. A. Monroe of Knoxville.

Memphis. May 15, 1949—Lakeview, Miss.-Tenn., north to Horn Lake Creek; Mud Lake, including levee and barrow pits. Eighty-two members of the Memphis Chapter participated. Nests were found of the following species: Least Bittern, King Rail (nest but no birds observed), and Phoebe (2 nests). The Bald Eagle observed was an adult. This Field Day was held two weeks later than usual and after the bulk of the spring migration had passed; still the list totalled 109 species as compared with 108 in 1948 and 115 in 1947.

Kingsport. May 15, 1949—the city of Kingsport and its immediate surroundings, the junction of the Watauga and the South Fork of the Holston River, the north side of Holston Mountain, and Bays Mountain. 4:00 A.M. to 8:30 P.M. Clear to slightly cloudy; temperature from 60 to 85; little wind. Eighteen observers. The thirty-nine Whip-poor-wills were all reported from Holston Mountain by Mr. Fred W. Behrend, who wrote that he "counted, by call, and sight, 39. In one place 4 squatted in the road and one hugged the bank. Got as close as 6 feet to them." On the day following this Field Day Mrs. Robert W. Pugh saw one Wilson's Warbler and one Black Duck.

TABULAR RECORD OF SPRING FIELD DAYS, 1949

The abbreviation "a" means "abundant", "c" means "common", and "f.c." means "fairly common". For further comments on birds marked with an asterisk (*), see the remarks on the field trip for that locality.

SPECIES	SPECIES							
	Greenville April 24	Knoxville May 1	Roan Mountain May 1	Elizabethton May 1	Nashville May 8	Memphis May 15	Kingsport May 15	
Pied-billed Grebe		1	8		1			
Double-crested Cormorant		6						
Great Blue Heron			1			7		
American Egret						24		
Little Blue Heron		1				2		
Green Heron	2	3	5		1	3	6	
Black-crowned Night Heron					2			
American Bittern	1	1						
Least Bittern						*1		
Mallard		2						
Common Black Duck			4					
Baldpate			1					
Blue-winged Teal	9	14	8					
Wood Duck		1						
Lesser Scaup Duck		1	220		1	1		
Hooded Merganser			1					
Red-breasted Merganser			9					
Turkey Vulture	32	6	9		7	1	17	
Black Vulture		7			*12	4	6	

Least Sandpiper	1	2	2	6	12	Bank Swallow	11	2	9
Semipalmated Sandpiper				2		Rough-winged Swallow	6 35 40	2	2
Western Sandpiper				8		Barn Swallow	10 12	9	11
Ring-billed Gull		11				Cliff Swallow	1		
Least Tern				9		Purple Martin	33 12 3	5	3 31
Mourning Dove	64	80	82	9	19 48	Blue Jay	70 56 83	5 fc	12 61
Yellow-billed Cuckoo		8	1	fc	14 20	Crow	60 40 81	4 fc	3 40
Black-billed Cuckoo		2		3	1	Fish Crow			4
Screech Owl	1	2		1		Carolina Chickadee	27 36 55	2 fc	10 30
Barred Owl				1	1	Tufted Titmouse	16 36 65	6 fc	10 26
Chuck-will's-widow	1	7		5	2	White-breasted Nuthatch	4		9
Whip-poor-will	1	2	12		*39	Red-breasted Nuthatch	2	1	
Nighthawk		5	3	1	2	Brown Creeper	1		
Chimney Swift	43	80	91	3 fc	7 46	House Wren	6	2	5
Ruby-throated Hummingbird		4	4	5	14	Winter Wren		7	
Belted Kingfisher	2	6	5	1	1	Bewick's Wren	12 8 3	6	1 10
Flicker	25	23	52	5	7 35	Carolina Wren	24 55 54	2	7 15 44
Pileated Woodpecker	1	5	1	4	1	Mockingbird	62 64 92	fc	3 41
Red-bellied Woodpecker	7	8		fc	8 3	Catbird	5 21 62	2	4 2 42
Red-headed Woodpecker	5	16		3	2	Brown Thrasher	45 58 71	2 fc	3 54
Hairy Woodpecker	1	1		4	2	Robin	82 a 159 13	6	3 94
Downy Woodpecker	3	10	6	2	7 4	Wood Thrush	27 80 91	1 fc	15 52
Eastern Kingbird	5	3	7	3	17	Olive-backed Thrush	10	fc	4 4
Crested Flycatcher	2	13		c	6 30	Gray-cheeked Thrush			1 1
Phoebe	16	19	40	3	*4 11	Veery	4	2	5
Acadian Flycatcher		3		6	5 14	Bluebird	33 46 46	fc	5 34
Least Flycatcher			6	13	1	Blue-gray Gnatcatcher	25 51 17	fc	18 16
Wood Pewee	2	13	11	fc	13 43	Golden-crowned Kinglet		5	
Horned Lark		1	6		2	Ruby-crowned Kinglet	4	1	4
Tree Swallow				1	1	American Pipit	1		

Cedar Waxwing	304	58	71	fc	16	15	Palm Warbler	2	...	...	3	...	...
Migrant Shrike	...	3	...	2	3	...	Oven-bird	2	17	8	15	1	1
Starling	96	100	343	3	30	98	Louisiana Water-Thrush	7	11	4	...	fc	4
White-eyed Vireo	7	45	38	c	24	20	Kentucky Warbler	...	10	7	...	fc	8
Yellow-throated Vireo	1	17	11	fc	...	7	Connecticut Warbler	...	...	...	...	*1	...
Blue-headed Vireo	1	...	1	5	2	...	Yellow-throat	10	66	79	2	c	30
Red-eyed Vireo	2	58	25	9	a	64	Yellow-breasted Chat	1	38	24	2	c	27
Warbling Vireo	...	2	10	...	3	4	Hooded Warbler	2	12	10	...	2	8
Black and White Warbler	12	9	21	7	fc	22	Canada Warbler	...	1	...	1	...	1
Prothonotary Warbler	...	1	...	6	6	...	Redstart	2	10	8	...	2	17
Swainson's Warbler	...	...	...	...	2	...	English Sparrow	20	70	298	...	4	fc
Worm-eating Warbler	...	1	3	1	2	16	Bobolink	6	10	...	...	14	23
Golden-winged Warbler	...	...	2	...	...	...	Eastern Meadowlark	57	60	121	...	c	49
Blue-Winged Warbler	...	...	...	4	...	...	Red-wing	37	137	92	...	11	64
Tennessee Warbler	...	3	...	fc	5	...	Orchard Oriole	3	21	12	...	fc	12
Parula Warbler	...	...	16	...	2	12	Baltimore Oriole	...	10	...	...	3	2
Yellow Warbler	9	40	131	4	5	21	Bronzed Grackle	52	69	119	...	5	19
Magnolia Warbler	1	3	1	2	1	5	Cowbird	11	37	19	1	4	35
Cape May Warbler	...	14	...	1	...	...	Scarlet Tanager	...	12	5	4	8	5
Black-throated Blue Warbler	...	...	14	...	...	...	Summer Tanager	5	37	8	...	fc	18
Myrtle Warbler	21	110	42	16	...	1	Cardinal	60	145	136	3	c	40
Black-throated Green Warbler	...	6	3	11	5	2	Rose-breasted Grosbeak	1	15	2	5	fc	...
Cerulean Warbler	...	2	...	7	3	3	Blue Grosbeak	...	...	...	...	...	1
Blackburnian Warbler	1	7	...	2	2	3	Indigo Bunting	1	55	9	...	a	65
Yellow-throated Warbler	...	1	...	5	6	2	Painted Bunting	...	...	...	...	...	2
Chestnut-sided Warbler	...	2	1	9	2	2	Dickcissel	...	...	...	...	9	105
Bay-breasted Warbler	...	...	...	2	7	4	Purple Finch	10	...	2	...	2	...
Black-poll Warbler	...	10	3	...	7	1	Pine Siskin	3	11	...	...	...	...
Pine Warbler	...	7	4	...	...	1	Goldfinch	168	110	168	4	c	12
Prairie Warbler	...	13	6	...	7	...	Red-eyed Towhee	28	72	68	13	fc	2

Savannah Sparrow	16	10	2	Field Sparrow	62	80	106	2	c	21	112
Grasshopper Sparrow	3	36	6	White-crowned Sparrow	8	9					
Vesper Sparrow		7	2	White-throated Sparrow	18	60	15		12	2	3
Bachman's Sparrow	3		1	Lincoln's Sparrow					5		
Slate-colored Junco	2	1	23	Song Sparrow	53	70	145	5			52
Chipping Sparrow	83	44	68	Total Species	91	123	105	40	114	109	101

THE ROUND TABLE

PIGEON HAWK IN SULLIVAN COUNTY, TENN.—On Jan. 11, 1949, I found a dead female Pigeon Hawk (or Merlin) on Enterprise Road in Sullivan County, Tenn. The road at this point borders the South Fork of the Holston River and is six miles from Bluff City. The identification was confirmed by Dr. L. R. Herndon, Elizabethton. He had seen a Pigeon Hawk on December 5, 1948, at the newly-formed Watauga Lake, but did not consider his identification positive at that time.—ADELE H. WEST, Route 1, Piney Flats, Tenn.

A BLUE JAY "ANTING" —Although "anting" has been observed in some forty species of ten families of Passerine birds in various parts of North America and Europe, I had never seen this type of behavior until the summer of 1948 when I watched a Bronzed Grackle (*Quiscalus quiscula versicolor*) in June and a Blue Jay (*Cyanocitta cristata*) in August. Not finding any reference to anting by birds in Tennessee, these two records are presented. The first one, occurring June 22, 1948, is described in detail in **The Wilson Bulletin** (1948, Vol. 60 (4); 244-245). This female Bronzed Grackle used substitute material—the oily outer layer of orange-skin. After taking some of the orange-skin in her bill, she passed primary feathers, one at a time, between her mandibles as she assumed a crouching position on the lawn.

My second observation occurred about noon on August 30, 1948, when three aluminum-banded Blue Jays (sex unknown) came to the brick walk near windows of our house. All had sparse neck plumage, being in molt. They hunted food but the supply of bread and sunflower seeds had been exhausted there. Two stood idly on the walk, then flew, but the third became very active in hopping on and off the walk. He picked up some tiny object that was invisible to me and assumed the awkward anting position. He extended the wings, curved the tail forward to stand on it, and crouched forward, grasping a primary feather and drawing it between the mandibles. He appeared to grasp the inner vane of the primary. The maneuver was accomplished very quickly, for within a few seconds, the bird was again in normal position and hopping to another spot to repeat the performance. After

about four repetitions, he picked up a dry leaf, rubbed it on a primary before flying. The entire observation occurred within a brief period—perhaps only three minutes. All motions were very fast and energetic. Examining the spot, I found a number of small black ants of two sizes crawling on and near the walk.

H. R. Ivor, in *Nature Magazine* (1946, 39 (1):22-24), gives a detailed description of the anting procedure with an excellent photograph of a Blue Jay in anting posture. His observations were made in his aviary in Ontario under ideal conditions where birds are held in semi-captivity and are tame enough to allow close approach for study and photographing.

In the literature, several materials, other than ants, are mentioned which various birds have used for anointing the plumage, apparently as substitutes for ants. In most cases these materials have been rubbed on the primaries. Grackles and Blue Jays have provided the largest list of substitute materials, including orange juice, orange-skin, hair tonic, vinegar, juice of unripe English walnuts, and juice of unripe fruits of the cucumber tree.

Many theories have been advanced as explanations for anting, but most of them have been discarded after closer observations were made in the field. At the present time, no one has solved the problem of why birds ant and why anting appears to be a pleasant activity to them. My captive Mockingbird (*Mimus polyglottos*), now past nine years of age, has never been seen to ant. When he is free in the screened porch ants crawl on the floor about him. He picks them up but they are immediately swallowed.—AMELIA R. LASKEY, 1521 Graybar Lane, Nashville 4, Tennessee.

REPORT OF THE T. O. S. ANNUAL MEETING

The 34th Annual Meeting of the Tennessee Ornithological Society was held in Nashville, Tennessee, on May 7 and 8, 1949. It began properly, putting birds before business. On Saturday morning, May 7, there was a field trip along Radnor Lake, followed by open house at the following places of interest: Mrs. F. C. Laskey's bird-banding station, Mr. A. F. Ganier's "Hobby House", the War Memorial Museum, and the Nashville Children's Museum.

The business meeting of the Directors of the T.O.S. was held at the Nashville Children's Museum early Saturday afternoon; the important business transacted is described at the end of this report. Immediately following this meeting, in the same auditorium, was a program of papers presented by members of the T. O. S. These were: "Distribution of the Black-capped and Carolina Chickadees in the Great Smoky Mountains National Park", by James T. Tanner of Knoxville; "The New 'Crane-town' at the Mouth of Duck River", by Eugene Cypert of Paris; "The Bird Life of Two Mountain Lakes in Northeast Tennessee", by Fred W. Behrend of Elizabethton; "Some Things Yet To Be Learned About Our Tennessee Birds", by Albert F. Ganier of Nashville; and a report on the T. O. S. pro-

ject to determine bird distribution in Tennessee, by Joseph C. Howell of Knoxville.

Dinner was held that evening at the B and W Cafeteria. This was followed by a program, presided over by President L. R. Herndon, that was a surprise to nearly all of the members, but especially to the three most concerned. The three living founders of the T. O. S., Albert F. Ganier, George R. Mayfield, and Dixon Merritt, were made Honorary Members of the Society. For each of these, a talk was given describing in glowing but accurate terms his life, ornithological accomplishments, and the contributions and efforts he has made for the T. O. S. Prof. Gordon Wilson, of Bowling Green, Kentucky, fittingly concluded the program with an address on "The Role of the Amateur in Ornithology", which is printed elsewhere in this issue.

On Sunday morning a field trip was held at Edwin Warner Park; the details of this trip will be found in the report of the several Spring Field days in this issue. After the lunch at the Park, group photographs were made and the annual business meeting was held, presided over by Pres. Herndon with the minutes being recorded by Secretary Fred W. Behrend.

The important business transacted at the directors' meeting on Saturday and the annual meeting on Sunday was as follows: The date of the annual meeting for next year was set, to be May 13-14, 1950. Mr. Ganier reported on the William Walker Memorial Library and described the conditions under which volumes in this Library may be loaned to members; more on this subject will be found in the pages of a later issue. The first volume of *THE MIGRANT*, long out of print, will be reprinted so that libraries may complete their sets as soon as Mr. Ganier can complete the necessary preparations. The following new officers of the Society were nominated and elected: President, Mrs. Ben B. Coffey, Jr., Memphis; Vice-President for West Tennessee, Brother I. Vincent, Memphis; Vice-President for Middle Tennessee, Mr. B. H. Abernathy, Nashville; Vice-President for East Tennessee, Mr. Robert J. Dunbar, Oak Ridge. The following old officers were nominated and re-elected: Secretary, Mr. Fred W. Behrend, Elizabethton; Treasurer, Mr. Lawrence C. Kent, Memphis; Editor, Dr. James T. Tanner, Knoxville; Curator, Mr. Albert F. Ganier, Nashville. The following Directors-at-Large were nominated and elected: for West Tennessee, Mr. Eugene Cypert, Paris; for Middle Tennessee, Mr. H. O. Todd, Jr., Murfreesboro; for East Tennessee, Mr. Arthur Stupka, Gatlinburg.

A ROUND-UP OF CHAPTERS AND MEMBERS

The Secretary, Mr. Fred W. Behrend, recently revised and brought up to date the membership list of the T.O.S., so that it is now possible to see how our Society stands. The figures given below are the best

THE MIGRANT

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All items for publication should be sent to

James T. Tanner, Editor, Department of Zoology, University of Tennessee,
Knoxville, Tennessee

The Tennessee Ornithological Society was founded, October 1915.

Publication of THE MIGRANT was begun, March 1930.

*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

now available, altho they may not be accurate because new members are continually joining.

The Nashville Chapter has about 82 members. President is Edwin D. Schreiber; Vice-President, Lang Wroten; Secretary-Treasurer, Miss Helen M. Howell; Corresponding Secretary, Miss Penelope Mountford; Chairman of Program Committee, Albert F. Ganier.

The Memphis Chapter has about 86 members. The President is Kirby Stringer; Vice-President, Brother I. Vincent; Secretary, Mrs. T. P. Hughes; Treasurer, Miss Mary Davant.

The Knoxville Chapter has 30 members. President is Mrs. Robert A. Monroe; Vice-President, Dale W. Yambert; Secretary-Treasurer, Mrs. E. E. Overton.

The Elizabethton Chapter leads in East Tennessee with 33 members. President is Mrs. Lee Roy Herndon; Vice-President, George K. Leonard; Secretary, Mrs. Avery Evans; Treasurer, Mrs. Fred W. Behrend; Statistician, Mrs. Lee Roy Herndon; Publicity Chairman, Fred W. Behrend; Historian, Mrs. E. M. West.

The Greeneville Chapter has 10 members. Its President is J. B. White; Vice-President, C. M. Shanks; Secretary, Mrs. J. B. White; Treasurer, Mrs. Willis Clemens; Statistician, Mrs. Richard Nevius; Publicity Chairman, Richard Nevius; Historian, Mrs. Willis Clemens.

The Kingsport Chapter was organized last Fall, and has a good start with 20 members. Its President is Thomas W. Finucane; Vice-President, Albert Wilkes, Jr.; Secretary, Miss Ruth B. Dunn; Treasurer, Mrs. Robert W. Pugh; Statistician and Censor, Howard S. Young.

In addition to the members that belong to active chapters there are 33 members in the State of Tennessee and 96 corresponding or out-of-state members. THE MIGRANT is sent also to 30 libraries or similar institutions, and is exchanged with 25 other publications.

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THREE ROOKERIES ON KENTUCKY LAKE

By EUGENE CYPERT

With the construction of Kentucky Dam, largest and lowermost of the T.V.A. dams, the waters of the Tennessee River have been backed up 184 miles, thus forming the 159,000-acre Kentucky Lake. As would be expected from the creation of such a lake, larger numbers and a greater variety of water birds have been attracted to the lower Tennessee Valley.

This year, a Double-crested Cormorant (*Phalacrocorax auritus*) rookery was established on Kentucky Lake, within the Tennessee National Wildlife Refuge near what was formerly the mouth of Duck River, near Waverly, Tennessee. The rookery, consisting of about 100 nests, is in a clump of trees which were left standing within the Duck River dewatering area. The trees are oaks and most of them have been killed by flooding. They are not tall and the nests are from ten to thirty feet above the water surface.

During the spring of 1948, cormorants used the site of this rookery as a roosting place. Approximately 1600 would gather there in the late afternoon. They were observed to come from up and down Kentucky Lake and from up Duck River. Probably all the cormorants from the middle part of the lake concentrated at this point to roost. By May nearly all of them had left the locality. Only some seven or eight birds stayed in that vicinity in the late spring and summer. It is not known if any of them nested there. But this year a large part of them stayed and converted their roost into a nesting place.

On April 3, a party composed of Mr. Albert F. Ganier, Mr. John H. Steenis, Mr. Tom Butler, Mr. Billy Paschall, Miss Grace Wyatt, Miss Kathleen Key, Mr. and Mrs. L. D. Thompson, and the writer visited the rookery. At that time the eggs were laid or were being laid. Clutches were from two to four eggs.

There are numerous records of cormorants nesting at Reelfoot Lake, but apparently this is the only record of this bird nesting at any other place in Tennessee.

Only half a mile from the cormorant rookery, also within the Duck River dewatering area, is a heron rookery. This colony was established here after the trees at the site of an earlier rookery in the bottom were cleared prior to flooding of the lake in 1943.

This colony consists of about 500 nests of the Great Blue Heron

OCT 24 1949

(*Ardea herodias*) and the American Egret (*Casmerodius albus*), the former being much more numerous. A Water Turkey (*Anhinga anhinga*) flew from the rookery on May 23, 1948, and another was seen there on May 28, 1949, so it is assumed that this species nests there. The Black Vulture (*Coragyps atratus*) frequents the area, presumably as a scavenger.

The nests of the heron rookery are in tall cypress and tupelo trees which have been flooded continuously since the flooding of Kentucky Lake. Most of these nests are from forty to sixty feet above the water, and apparently are built at any place on the limbs where a nest can be supported.

Visiting ornithologists will find both of these rookeries readily accessible. It is possible to drive down Duck River levee to within 200 yards of the cormorant rookery. From there the remaining distance can be traveled by boat. Prior to May 1, while the water is still high in the dewatering area, one can go from the cormorant rookery to the heron rookery in a shallow-draft boat. In late spring and summer, when the water level is low, it will be necessary to carry the boat from 50 to 200 yards, depending upon how firm the ground is between the levee and the slough area where the rookery is located. Once the water is reached with the boat, one may paddle to all parts of the rookery, which covers an estimated four acres.

A third rookery is located in the West Sandy dewatering area near Elkhorn, Tennessee, about 25 miles northwest of the first. When this rookery was visited, May 28, it was difficult to make an estimate of the number of nests because of the foliage. There are probably about 100 nests there. They appeared to be all nests of the Great Blue Heron. They were built in the American elm, tupelo, and red maple trees and most of them were about sixty feet above the ground.

After the water has been pumped from the dewatering area, about May 1, one may walk into the rookery. Earlier in the year it will be necessary to use a boat to get there.

At the time of the writer's visit to the West Sandy rookery, one could occasionally hear something fall to the ground with a heavy thud. It was wondered if young birds or eggs were falling from the nests. After some listening and looking, it was learned that it was fish that were being dropped. All fish found were carp (*Cyprinus carpio*) and gizzard shad (*Dorosoma cepedianum*). One carp was fourteen inches in length! Most of the fish ranged between six and ten inches.

It is doubted if the larger fish were caught alive by the herons. Many fish are killed by the nearby West Sandy pumps and the larger fish found in the rookery were probably picked up near the pump station. In any case, it is surprising that a heron would be able to pick up a fourteen-inch fish and fly with it for more than two miles, which it must have done.

TENNESSEE WILDLIFE REFUGE
PARIS, TENN.

INTERESTING BIRDS SUMMERING IN NORTH ALABAMA

By THOMAS A. IMHOF

The great Appalachian chain which stretches southward from the Gaspe in Canada has its southern terminus in Alabama just south and west of Birmingham. This locality marks roughly the boundary between the Upper and Lower Austral Zones and consequently many species of birds reach their breeding limits near here.

In some cases the records below indicate that the birds themselves are changing range, in others the ranges have never been accurately determined. In many cases the boundary fluctuates from year to year and very likely reflects the internal population pressure and thus the general abundance of the species. The records offered here serve to extend some breeding ranges, fill in some wide gaps or reaffirm some old records of long standing.

I am indebted to the following bird students for the use of their records and for personal assistance in the field: Thomas Z. Atkeson of Wheeler National Wildlife Refuge, Decatur, Alabama; Branch Howe of Decatur, Ga.; Donald Lee of Birmingham, Ala.; Morton H. Perry of Birmingham, Ala.; Millard F. Prather of Birmingham, Ala.; Henry M. Stevenson of Florida State University, Tallahassee, Fla.; Samuel R. Tipton of University of Tennessee, Knoxville, Tenn.; and Sam W. Vaughn of Birmingham, Ala. I am further indebted to Dr. Stevenson and Dr. James T. Tanner of University of Tennessee, Knoxville, Tenn., for a thorough perusal of this paper and valuable constructive criticism.

PIED-BILLED GREBE. There are two breeding records for Alabama to my knowledge. One is of a nest found near Prattville (100 miles south of Birmingham) by L. S. Golsan, exact date unknown. (Stevenson, letter). Mr. Tom Z. Atkeson states (in letter) that his father found a floating nest at Columbia in the extreme southeast corner of the state in late April, 1947. At Wheeler Refuge, Decatur, Ala., there is no record between May 24 and Aug. 29. At Birmingham, Stevenson had no record between May 20 and August 3. The writer had none between May 2 and August 9 until 1948. In that year a juvenal was recorded on July 11 and 31 at Bayview Lake, Birmingham. In 1949 a pair remained throughout the summer at Bayview Lake. I feel certain that if any attempt were made at breeding, the numerous large turtles there would have done away with the young in short order. Besides this pair, on July 12 there were 5 additional birds; on the 17th, 2; 19th, none; 24th, 2; 26th, none; 31st, 5; August 2, 6; 9th, 1; all at Bayview Lake and all full adults.

VIRGINIA RAIL. There are several spring and one fall transient records for Alabama (Howell, 1928). The writer recorded one wintering in 1948-1949 in a small, recently-formed cattail marsh at Bayview Lake. Subsequent records were as follows: April 24, 2; May 28, 2; June 5, 1 (?). Frequent visits on intervening and succeeding dates were fruitless. No

indication of breeding was found altho the last date is very suspicious. To my knowledge the nearest breeding station is in Virginia. A very interesting parallel is the recording in Audubon Field Notes (1949 3: p. 212) by Dr. Lowery of Richard F. Miller's observation of a pair at Baton Rouge, La., on April 26 and May 6, 1949.

KING RAIL. A record by Perry and the writer of two juvenals at Attalla, Etowah County, June 25, 1949, helps fill in a 150-mile gap in its range between the Tennessee Valley, (Huntsville and Decatur) and Sylacauga and Tuscaloosa on the south (Stevenson).

EASTERN PHOEBE. Stevenson's three nesting records at Red Bay, 1947; Jasper, 1931; and Birmingham (Red Mountain), 1932, mark the southwestern breeding limits in Alabama. Perry found an adult building a nest at the mouth of a wagon coal mine at Lindberg, Ala., May 17, 1949. Lindberg is just halfway between Birmingham and Jasper, thus this record further consolidates Stevenson's records.

BARN SWALLOW. A record of two birds on July 3, 1946, on the grounds of St. Bernard College, Cullman, Alabama, probably indicates breeding, since Fall transients have not been recorded earlier than August 8 at Birmingham. This is 25 miles south of the Tennessee Valley, where there are records at Tuscumbia (Howell, 1928) and Wheeler Dam (Atkeson).

CEDAR WAXWING. Birds bred at Cullman (Imhof), and Lake Purdy near Birmingham (Perry, Tipton, and Imhof) and summered at Lane Park, Birmingham (Perry and Tipton), all in 1946. A flock of five birds seen by the writer July 11, 1949, probably a family group, at Fairfield, Ala., a suburb of Birmingham, would indicate that they probably bred close by this year. There are no breeding or summering records for 1947 or 1948 altho individuals were present here until late May.

LOGGERHEAD SHRIKE. Howell (1928) recorded the northern breeding limits of this species in Alabama as just south of Birmingham. Stevenson (in letter) in noting its breeding much farther north sums up its present range as "entire state except in mountains." Perry and the writer recorded four birds June 25, 1949, on Lookout Mountain just east of Fort Payne, Ala., in farming areas, and Stevenson found one on Sand Mountain near Albertville, Ala., July 8, 1949. As an indication of their present abundance north of Birmingham, we recorded 12 birds on the 115-mile trip from Birmingham to Hammondville, June 25, 1949, and four birds were counted on the 90-mile trip from Birmingham to Decatur, May 1, 1948.

WARBLING VIREO. There is one record from near Florence previous to 1937, and May and July, 1936, by C. Russell Mason (1936). On July 11, 1949, Stevenson found a singing male in a hackberry very close to the locality of Mason's record.

WORM-EATING WARBLER. Previous to 1949 there is a record of a nest with young at Camp Andrews, 5 miles south of Birmingham in 1941 by Perry, Howe, and Lee. A singing male at Mitchell Dam on the Coosa River, May 7, 1936, by Stevenson probably was not a migrant. Howell

(1928) mentions records for Shelby, May 27 and 31, 1898; and Ardell, June 25, 1913, undoubtedly breeding. In 1949, five singing males were recorded in three localities: one on the Cahaba River halfway between Centreville and Blocton (in Bibb County), May 21, (Perry and Prather); two on the Warrior River near Brookwood (15 miles above Tuscaloosa), May 30 (Perry, Prather, Vaughn, and Imhof); two on Lookout Mountain, June 25 (Perry and Imhof).

YELLOW WARBLER. Howell (1928) records the bird as breeding at Guntersville, 1913; Attalla, 1913; Autaugaville, 1903; and at Anniston and Florence. Since 1932 at least, the bird has been an abundant breeder at Birmingham. In 1949, six singing males were recorded in and around Tuscaloosa on May 29 by Perry, Prather, Vaughn, and Imhof.

BLACK-THROATED GREEN WARBLER. Apparently this species is a locally common breeder on bluffs where spruce pine (*Pinus virginiana*) is abundant in the rugged coal mining region between Birmingham and the Warrior River. Howell (1928) found it common at Squaw Shoals (now Lock 17) on the Warrior River, June 3-5, 1913. There are several old records for the Blue Ridge (30 to 70 miles southeast of here), Lookout Mountain, and Sand Mountain. On the Warrior River fifteen miles below Lock 17 and fifteen miles above Tuscaloosa, on May 30, 1949, Perry, Prather, Vaughn, and the writer counted no less than eleven singing males in nine hours. There was a singing male on every substantial bluff we examined whose elevation was 400 ft. or better. The same was true on upper Short Creek near Ben Vines Gap on June 7, 1949, when the writer recorded eight birds, seven of them singing males, in two miles and two hours time at midday. This locality is less than seven miles from the city limits of Birmingham and at 450 to 600 ft. elevation.

OVENBIRD. The known southern limits of the breeding range are roughly on a line drawn from Florence to Huntsville to Anniston (Howell, 1928). The presence of a singing male in Birmingham, sixty miles southwest of this line on July 5, 1949, probably indicates an extension of breeding range which, it is hoped, will be more fully investigated.

COWBIRD. Howell (1928) gives no breeding records for the state, although Stevenson (in letter) has breeding records for Tuscaloosa in 1938 and 1939 and summering records for Decatur, 1943; Red Bay, 1947; and Florence, 1949. At Birmingham the writer observed White-eyed Vireo as host in June, 1947, and Summer Tanager as host in July and August, 1949. On August 3 a flock of five males was noted at the same locality. On May 29, 1949, at Tuscaloosa a flock of five was noted by Perry, Prather, Vaughn, and Imhof.

SCARLET TANAGER. Howell (1928) records this bird breeding as far south as Mt. Weogufka in the Blue Ridge, and Squaw Shoals (Lock 17) on the Warrior River. On May 30, 1949, Perry, Prather, Vaughn, and the writer observed two males singing at an elevation of 400 feet on the west bank of the Warrior River above Laurel Branch halfway between Tuscaloosa and Lock 17.

DICKCISSEL. According to Howell, Stevenson, and the Fish and Wildlife Service Personnel at Wheeler Refuge, Decatur, Ala., this bird breeds fairly commonly in the Tennessee Valley and in the Central Prairie Belt 100 miles below Birmingham. In 1937 a pair remained in Birmingham until May 23 when the cutting of hay from their field apparently chased them from the area. In May and June of 1949, Perry and the writer observed two pair, one with young, at Grasselli in Jones Valley, two miles west of Birmingham.

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- 307 38TH STREET, FAIRFIELD, ALABAMA

REVIEWS OF SEVERAL BOOKS ON BIRDS

This summary of books about birds aims to describe several books that are or might be useful to bird students. The number of these books that are available is rather large, and the average student is not aware of all of them or does not know the true value or use of each. These reviews attempt to assess the worth of each book listed. The following people contributed their comments on some or all of the books: Ben B. Coffey, Jr., of Memphis, Albert F. Ganiier of Nashville, Dr. L. R. Hernndon of Elizabethton, Dr. J. C. Howell of Knoxville, Mrs. F. C. Laskey of Nashville, and Dr. Walter R. Spofford, formerly of Nashville.

It would take quite a bit of money for a person to buy all of the books listed below. The more important and useful books are indicated in the reviews, but many people would not care to or could not afford to buy even these. It is suggested that local chapters could buy the books in which they are interested and deposit them in a local library where they would be accessible to all.

The books are grouped below according to their purpose or subject matter, beginning with books on the identification of birds.—The Editor.

A Field Guide to the Birds of Eastern N. A. By Roger Tory Peterson. Houghton Mifflin Co. 2nd ed. 1947.—This is recommended as the indispensable book, the one to be acquired first by every bird student. It is a manual for the identification of birds in the field, covering the birds of eastern North America, and as such contains the following excellent features: accurate illustrations either in color or black and white, many birds pictured both at rest and in flight, characteristics important for identification emphasized both in the illustrations and the text, pictures of both sexes and of most variations in plumage for each species, notes on characteristic voice and habits, and with all this, handy and convenient.

How to Know The Birds; an introduction to bird recognition. By Roger Tory Peterson. New York. 1949.—This may have been intended as a simplified manual to bird identification, but to most people it is not nearly as satisfactory as the **Field Guide** by the same author. The number of pictures and the number of species treated is considerably less than in the **Guide**. It has, however, some added material: a brief treatment of ecological distribution of birds and several pages of silhouettes of common birds. It is available at two prices, two dollars or thirty-five cents, the cheaper edition lacking the colored plates. Mr. Coffey suggests that the cheaper edition be purchased in numbers for use with Boy Scouts and similar groups.

Audubon Bird Guide; eastern land birds. By Richard H. Pough. Doubleday and Co., Inc., 1946.—This book is limited in usefulness as it treats only the "land birds", omitting hawks, shorebirds, waterfowl, and similar groups. The colored plates are rated from fair to excellent by different people, but they are not as easy to use as in Peterson's **Guide**. Perhaps the one advantage of this book over other identification manuals is in its more complete description of each bird and its habits.

Field Guide of Eastern Birds. By Leon A. Hausman. G. P. Putnam's Sons, N. Y. 1946.

Illustrated Encyclopedia of American Birds. By Leon A. Hausman. Halcyon House, N. Y. 1944.—Neither of these two books by Hausman are to be recommended above those described above. The illustrations in the **Field Guide** are satisfactory but very few are in color, and attention is not drawn to diagnostic characters. The material in the **Encyclopedia** is sketchy because of the large number of species treated.

The Ducks, Geese, and Swans of N. A. By Francis H. Kortright. American Wildlife Institute, Washington. 1943.—For students of waterfowl this book is very desirable. There are extensive descriptions, which make interesting reading, of each species. The appearance of juvenile, eclipse, and mature plumage are illustrated in color.

The Hawks of North America. By John B. May. Nat. Assoc. of Audubon Societies, N. Y. 1935.—This book is out of print, and so is difficult and expensive to acquire, but it is still the best book on its subject. There are excellent colored plates, black-and-white diagrams of hawks in flight, comments on habitats, identification, and especially useful, detailed data on food habits of these birds of prey.

A Guide to Bird Songs. By A. A. Saunders. D. Appleton-Century Co., N. Y. 1935.—Bird songs are graphically presented as well as being described in words. Students of birds in the field are well aware of the value of bird songs as a means of identification. Opinions vary as to the worth of this book in teaching and helping to identify bird songs; apparently some individuals gain considerable from it while others do not.

Natural History of the Birds of Eastern and Central N. A. By Edward H. Forbush and John B. May. Houghton Mifflin Co. 1943.—For many years

the three volume "Birds of Massachusetts", by Forbush, has been considered one of the most valuable reference books besides containing the largest and best series of colored plates, by Fuertes and Brooks. This **Natural History of the Birds** is abridged from the larger work, but it still carries the original plates plus some additional ones by later artists and fairly detailed descriptions of the plumages and habits of each species. In many respects it is the second most useful book for bird students.

Birds in the Garden and How to Attract Them. By Margaret McKenny. Univ. Minnesota Press. 1939.—This book is not well known to bird students, but it is very useful for its purpose. The value of birds in the garden is described and then various ways of attracting birds: bird houses, plants for food and cover, etc. The book is well illustrated.

A Guide to Bird Watching. By Joseph J. Hickey. Oxford Univ. Press, N. Y. 1943.—A very interesting book to read, this directs the bird student away from solely listing and identifying birds and towards more serious and fruitful study of their lives and habits. Studies that have been accomplished are described and suggestions given for studies that need to be made. Every interested bird student should at least read this book. In connection with this topic, another book which provides a guide for life history studies of birds is **A Laboratory and Field Manual of Ornithology**, by Olin Sewall Pettingill (Burgess Publ. Co., Minneapolis).

Book of Bird Life. By Arthur A. Allen. D. Van Nostrand, N. Y. 1930.—This is a good book to supplement the identification manuals and other books that describe birds species by species. It treats of the biology of birds, describing their adaptations, life histories, and habits; in short, it helps to understand birds.

Birds Over America. By Roger Tory Peterson. Dodd, Mead, and Co., N. Y. 1948.—This is not a reference book, but it still contains a surprising amount of interesting material about birds. It is delightful reading and is beautifully illustrated.

OUR ORNITHOLOGICAL LIBRARY

By ALBERT F. GANIER

The late William M. Walker, a sketch of whom appeared in **THE MIGRANT** for March, 1947, willed his ornithological books and periodicals to the Tennessee Ornithological Society, and they were duly accepted by the Board of Directors at the Annual Meeting of May 10, 1947. At this time it was decided to use the books to form the nucleus of a library, to be known as the William M. Walker Memorial Library of the T. O. S., to house them at the Nashville Children's Museum and to make them available to members for reference there or for loan. Until such time as a librarian could be chosen, the Curator was requested to look after the gift, and this he attends to, as well as providing a case with glass doors for their reception. Thru the courtesy of Mrs. Walker, now an assistant librarian at the University of Florida, suitable book plates were

prepared and installed by her in the 30 volumes. The list of books is given below and in the parenthesis following each description is given figures denoting the cost of one mailing, at book rates, plus insurance at replacement value. Members may borrow the books for a period of 21 days, paying for the postage and insurance both ways, returning them in the same substantial wrappings, prepaid and insured.

Allen, Arthur A.—American bird biographies. Includes 10 color pls by Sutton and 190 halftones. Ithaca, N. Y., Comstock, 1934. (16 plus 10)

Allen—The Golden Plover and other birds. Includes 7 color pls by Sutton and 240 halftones. Ithaca, N. Y., Comstock, 1939. (16 plus 10)

Audubon, James J.—The birds of America. Introduction and descriptive text by Wm. Vogt, N. Y., Macmillan, 1937. (32 plus 10)

Bent, Arthur Cleveland—Life histories of North Amer. diving birds. Reprint of U. S. Nat. Museum Bul. 107. Dodd, 1946. (12 plus 10)

Bent—Life histories of North Amer. birds of prey, part 2. USNM Bul. 170. Wash., 1938. (16 plus 10)

Bent—Life histories of North Amer. woodpeckers. USNM Bul. 174. Wash., D. C., 1939. (12 plus 10)

Bent—Life histories of North Amer. cuckoos, goatsuckers, hummingbirds and their allies. USNM Bul. 176, Wash., 1940. (16 plus 10)

Bent—Life histories of North Amer. flycatchers, larks, swallows, and their allies. USNM Bul. 179, Wash., 1942b. (16 plus 10)

Chapman, Frank M.—The warblers of North America. 3rd edition, N. Y., D. Appleton Co., 1907. (16 plus 10)

Compte, M. Achille—The book of birds: edited and abridged from the text of Buffon. Hand painted illust., Victor Allen. Translated by Benj. Clark. London, R. Tyas, 1841. Rebound. (20 plus 10)

Dawson, Wm. L.—The birds of California. Deluxe edition, few plates missing. San Diego, 1923. 4 vols, unbound. (each vol. 44 plus 25)

Forbush, Edward H.—Birds of Massachusetts and other New England states. 3 vols.; vol. 1, water birds; vol. II, game birds, birds of prey to grackles; vol. III, all other passerines. Boston, 1925, '27, '29. (each vol. 24 plus 25)

Forbush—Natural history of the birds of eastern and central North Amer. Rev. and abridged to 1 vol. Houghton, Boston, 1939. (20 plus 10)

Green, Charlotte H.—Birds of the South. Univ. of North Carolina Press, Chapel Hill, 1933. (12 plus 10)

Grosvenor, Wetmore, and Alexander, editors—The book of birds. 2 vols. Reprinted from National Geographic Magazine, Wash., 1937. (both v. 32 plus 10)

Kortright, Francis H.—The ducks, geese and swans of North America. Col. pls by T. M. Shortt, Amer. Wildlife Inst., Wash., 1943. (16 plus 10)

May, John B.—The hawks of North America. Color pls of each. Nat. Assoc. of Audubon Societies, New York, 1915. (12 plus 10)

National Park Service.—Checklist of the birds of the National Parks. Mimeographed annotated lists, Wash., 1937. (16 plus 10)

Oberholser, Harry C.—The birdlife of Louisiana. La. Dept. of Conservation, Bul No. 28, 1938. Paper covers. (20 plus 10)

Palmer, B. Lawrence—Aids to knowing natural science; the birds. Outline illust. by Fuertes. Ithaca, Comstock, 1944. (8 plus 10)

Pearson, T. Gilbert—Birds of America. Col. pls by Fuertes. Garden City Publishing Co., N. Y., 1936. (24 plus 10)

Peattie, Donald Culross—Audubon's America. Includes some Audubon color plates. Boston, Houghton Mifflin, 1940. (24 plus 10)

Reed, Chester A.—Birds of Eastern North America. Has small color illust. of each species. Doubleday, N. Y., 1912. (16 plus 10)

Roberts, Thomas Sadler—Bird portraits in color. Plates same as in his Birds of Minn., Univ. of Minn. Press, 1934. (16 plus 10)

Roberts—The birds of Minnesota. Vol. I shows water birds and raptors, thru woodpeckers; vol II shows all other passerines and includes descriptive keys. Univ. of Minn. Press, 1936. (each vol 32 plus 25)

Saunders, Aretas A.—Guide to bird songs. N. Y., Appleton, 1935. (12 plus 10)

Schwartz, Charles W.—The Prairie Chicken in Missouri. Pub. by the Conservation Commission of the State of Missouri, 1944. (24 plus 10)

Taverner, P. A.—Birds of Canada. Ottawa, Patenaude, 1934. (20 plus 10)

Todd, W. E. Clyde—Birds of western Pennsylvania. Color plates by Sutton. Univ. of Pittsburgh Press, 1940. (28 plus 25)

Webb, A. C.—Some birds and their ways; for home and school. Richmond, Va., Johnson Co., 1898. (12 plus 10)

In addition to the books listed above, there are unbound runs of three ornithological journals as follows: **The Auk**, vols 55-63 (1938 to 1946 incl.); **The Wilson Bulletin**, vols 37-53 and 57-58 (1925 to 1941 and 1945 to 1946, inclusive); **Bird Lore**, vols 20-42, incomplete (1918-1940), 46 copies in all, including 9 supplements; **Audubon Magazine**, vol 43 (1941) complete.

Mr. Walker's complete and bound file of **THE MIGRANT** was retained by Mrs. Walker since it contained so much of her husband's writings. The Society is desirous of having some member or members donate a set of this publication to its library. Gifts of other bird books and publications are solicited and it is hoped that the library will grow by reason of such gifts. Immediate past-editor Ganier and present editor Tanner have expressed a willingness to donate the many state bird journals that have been sent to them in exchange thru the years.

Communications in regard to the books and library should be addressed to Albert F. Ganier, Curator, 2112 Woodlawn Dr., Nashville 5, Tenn. NASHVILLE, TENN.

THE ROUND TABLE

WHITE IBIS OBSERVED IN KNOX CO., TENNESSEE.—On the afternoon of July 29, 1949, we observed four immature White Ibis (*Guara alba*) standing on the edge of a small artificial pond in a pasture. The pond

was on the Broad Acres Dairy Farm about one mile southwest of Powell Station. The pond was less than an acre in area and about one hundred feet from an occupied house. The pond was shallow and heavily grown up with narrow-leaved emergent vegetation.

Our attention was first attracted to the birds as they flew in unison almost straight up to a height of about five feet and then settled back again on the edge of the pond. We watched them for about five minutes, following which they flew up from the edge of the pond and passed over the hard-surfaced road only one hundred yards from us to be lost from sight in the trees beside Beaver Creek.

The family occupying the nearby house told us that the four ibis had first come to the pond "before the fourth of July". Later they informed us that three of the birds left before the fourth one, which had been injured.

We have been unable to find any other records of the occurrence of this species in Tennessee.—ISABEL H. TIPTON and JOSEPH C. HOWELL, University of Tennessee, Knoxville, Tenn.

YELLOW-BILLED CUCKOO PREYS ON GREEN SNAKE. — Around 4:45 P. M., on June 11, 1949, my father called my attention to a Yellow-billed Cuckoo (*Coccyzus americanus*) that was struggling with a Green Snake (*Opheodrys aestivus*). The Cuckoo was in a thick growth of Privet hedge a few feet from a bedroom window, and in its bill was a small Green Snake about eight inches long. The bird had grasped the snake by its middle and was having a hard time holding the writhing creature. Just as I arrived at the window the Cuckoo flew off, and immediately I rushed out to ascertain whether the bird had carried off the snake. I was unable to find either the Cuckoo or the snake, and presumably the former had succeeded in carrying away its victim. Five or ten minutes later a Cuckoo, no doubt the same individual, came back to a similar hedge several yards from the first. The bird, about five feet from the ground, was moving about in the shrub, and from all appearances was looking for another snake. The Green Snake is abundant in the hedges around my home, and the smaller specimens would fall easy prey to the larger Cuckoo, which is almost serpentine itself.—RALPH M. SINCLAIR, Nashville, Tennessee.

A RINGSIDE SEAT WITH A PAIR OF WARBLING VIREOS.—In early May I had the good fortune to watch a pair of Warbling Vireos build a nest. The nest in a maple was by actual measurement six feet from my bedroom window and fifteen feet from the ground. I noticed the nest when it was about half finished and for several mornings, while lying in bed, I watched its completion. Their firm, rich, continuous warble as they worked was very pleasant. As soon as the nest was completed, I nailed a plank from my window out to an upright ladder from the ground. I could then step thru the window onto this plank and walk within two feet of the nest at eye level.

In a week's time the nest contained four white eggs, and two weeks later these hatched. When both parents were busy feeding the young, I got busy with my cameras. First I made Kodachrome movies with a six-inch lens from within my room, then I made both Kodachrome and black and white pictures with still cameras. After each shot by remote control, it was necessary to walk out on my plank and reset the cameras. I soon saw that the birds were paying no attention to what I was doing, so I finished my photography at a distance of two feet, with my movie camera buzzing and my flash flashing. None of this seemed to frighten the birds in the least.

Two different times I returned two of the young birds to their nest. One was found dead on the ground, but I am sure that three survived, joined their parents, and learned to warble.—CHARLES F. PICKERING, Clarksville, Tenn.

THE LATE SUMMER DICKCISSEL DEPARTURE.—Throughout West Tennessee, especially in the area which lies along the Mississippi River, one of the most abundant breeding birds is the Dickcissel (*Spiza americana*). Returning from its winter home during late April, the males become highly vocal at once and announce their presence throughout the day with unrivaled persistence. Along the levee below Memphis, with the broad meadows comprising its inner slopes and barrow-pits, a day in May finds a dozen in sight at nearly any point one may choose. Motoring northward from there to the Kentucky line at Reelfoot Lake, they seem present in every weed field, wasteland, or patch of vetch or clover.

Between June 2 and 5, 1949, I was afield daily in the Dyersburg-Reelfoot area and found Dickcissels everywhere present and nesting. The week of August 26-Sept. 2 found me again afield in this area and persistent search revealed not a single individual. The possibility that they were molting and "hiding out" in the weed fields caused me to search there but without success. Evidently they had raised their broods and departed. In previous years, my visits to the Memphis areas above mentioned, in late August with members of the Memphis chapter, finds the place deserted of Dickcissels as well as of Grasshopper Sparrows and Meadowlarks. There, too, they have reared their broods and moved away. Some Meadowlarks can be found in the vicinity but no Dickcissels.

Where these birds have gone and why they should leave, when summer foliage is still at its height and weed seed as well as insect food is abundant, is difficult to understand. During the present summer there has been ample rainfall, hence no drought conditions that could have affected them.

The winter home of the Dickcissel, according to the A. O. U. Check-list of 1931, is from Guatemala to Venezuela, Colombia, and Trinidad, migrating through Mexico and Central America. It may be that they begin their southward migration there as soon as their broods are ready to fly. This same procedure is followed by many of our shorebirds which

nest near the Artic Circle. If Dickcissels do not at once move to their winter home, then they must move southward to certain areas where they tarry for a time to subsist upon some favored type of food not available in their breeding area. There is a possibility that they go to the Louisiana rice fields and feed upon that grain, as do the Bobolinks upon the rice fields of South Carolina. The literature upon the birds of Louisiana, by Beyer, Kopman, Arthur, and Oberholser, however, is silent upon such a possible migratory influx. Any information upon their post-breeding-season movements would be received with interest.

What has been said above about the late summer scarcity is true in a less pronounced way about many of our other birds. Writers in the North have called attention to it there and think their birds have moved a bit southward. Here we think they have moved even further southward. At this season, the adult population, augmented by the season's young, should bring avian populations to their highest point.

The apparent scarcity is due to several factors, among which are: hiding out during process of molting, sluggishness at this time, disinclination to singing or calling, density of foliage, and frequent drouth periods at this season which cut down on the supply of food and drinking water. I have spent a great deal of time afield at this season trying to see if these factors alone were responsible, but have come to the conclusion that they were not. There is evidently a post-breeding-season movement which points to an earlier southward migration than is generally realized. The 300 birds killed at the ceilometer light-shaft at Nashville airport, during the night of Sept. 9, 1948 (see MIGRANT, 20:9-12) also points to this conclusion. In short, there is much yet to be learned about this interesting problem.—ALBERT F. GANIER, Nashville, Tenn.

SOME UNUSUAL NOTES FROM MEMPHIS.—On June 20, 1949, near Galloway Municipal Golf Course, in the eastern part of this city, a male Eastern Towhee (*Pipilo erythrophthalmus*) was heard singing and seen feeding on the ground. Later, it disappeared into a hedge and mixed tree thicket. On subsequent searches that day, and a few days later, neither the bird nor a nest could be found. I believe that this species is nesting in that vicinity. This is the first published summer record of Towhees for this area since Southgate Hoyt's write-up in the September, 1945, MIGRANT and Ben Coffey's report in the September, 1946, issue. A casual check of King's Woods where Hoyt found nesting Towhees failed to turn up any of the birds. King's Woods is now a thickly-populated housing subdivision. Towhees also have been observed at least twice during the summer at the Scout Camp Currier, approximately thirty miles south of here near Eudora, Mississippi, in 1944 by the writer, and again, I believe, fairly recently by others. I think that nesting Towhees are commoner or are becoming commoner than heretofore believed.

On July 4 an albino Robin (*Turdus migratorius*) was seen at this address. This general area was described in Albert Powell's article in the March 1946 MIGRANT. The bird was in good plumage except that it was snow-white

and did not have a single dark feather on it. Its legs and bill were both pale yellow in color instead of the yellow bill and black legs in the normal Robin. The eye color could not be ascertained. It was feeding alone on the ground and when approached, flew off giving the usual Robin notes. The next day it was seen twice, but not since.

July 6, a White-throated Sparrow (*Zonotrichia albicollis*) was heard singing, also at this address. Later that same day I managed to get a good look at the bird. It was in perfect plumage and appeared to be in good health. I was out of the city last year, but my mother tells me she heard a White-throat singing off and on all summer here. I do not know if the bird is actually nesting or just a non-breeding summer resident. I have not yet been able to find a nest, although the sparrow has been heard singing fairly regularly, usually very early in the morning. I have been unable to find any printed reference on the summer occurrence of this bird this far south.—HERBERT CLARKE, 1466 Somerset Place, Memphis (5) Tennessee.

BLUE-WINGED WARBLER'S NEST WITH SIX EGGS.—On May 5, 1949, when descending through woods and brush to the mouth of a small hollow, I was startled by the sudden appearance of an excited and defensive pair of Blue-winged Warblers (*Vermivora pinus*). They stayed fairly low in bushes and shrubs, flitting with tails and wings spread in a defending and belligerent attitude toward intruders. Every indication was that I had disturbed a pair of Blue-wings in the immediate vicinity of their nest. I could not look for the nest at that time but returned on May 7. I approached the area without flushing the birds, but after a short wait they appeared, fussing and disturbed. They circled a small area, staying three to four feet from the ground, but did not approach a nest. I withdrew to return a couple of hours later. This time I approached very quietly and cautiously, looking well before each step. Suddenly, from immediately at my feet flew the Blue-wing from her nest and I found it on the ground in a clump of buck brush or coral berry (*Symphoricarpos orbiculatus*). She did not defend the nest but flew away with a chirp or two. The nest was fairly deep. It was built on a thick mat of naturally occurring grass with no open space between the nest and the ground. It contained six small white eggs very finely specked with reddish-brown at the larger end. It was well protected by the surrounding clump of buck bush and concealed by tall grass. It was located in an area of low bush and brambles back of the edge of a meadow at the mouth of a hollow between two wooded hills. Blackberry briars, wild plum, and buck bush made up most of the surrounding shrubs.

On May 14, the bird was again flushed from the nest. On May 15, the nest contained five tiny newly-hatched birds and one unhatched egg. The adult birds were not at the nest. On May 21, the nest was empty. The birds were not in immediate evidence.

Most authors give five as the upper limit of the number of eggs laid in a single set of Blue-winged Warblers. Chapman's "Handbook" and

Job in "Birds of America" give the range as four to six without specific references to sets of six.

Nests reported from Nashville area that have come to my attention have not contained more than five eggs, although only one clutch of five was an incubated set (see Crook, MIGRANT, 1933, 4 (1); p. 10).

This observation may be of interest because it reports a Blue-wing's nest with six eggs which were incubated to hatching. The locale of the nest is perfectly typical of classical descriptions by Wilson, by Forbush, and others. The occurrence of a nesting pair of Blue-wings in the South Harpeth River drainage basin is not remarkable. A census of nesting birds in suitable territory in this area would likely make them surprisingly numerous. I observed several other singing males in the surrounding territories, and it is interesting to note that the first Blue-wing of 1949 was observed singing in the immediate vicinity of this nest on April 13.—KATHERINE A. GOODPASTURE, 408 Fairfax Ave., Nashville, 5, Tenn.

A SYCAMORE WARBLER'S NEST IN A PINE TREE.—On April 23, 1949, I watched a gray warbler with a light, streaked breast and a bright yellow throat (*Dendroica dominica*) building a nest on top of a horizontal limb of a pine (*Pinus virginiana*). The nest was thirty to forty feet from the ground and ten to twelve feet from the trunk of the tree. It was perhaps one-third finished and appeared very light. The bird was building intently. It did not perch on approaching or leaving the nest, but flew straight in and out, working chiefly from within the nest. Its flight away from the nest was direct and fast. The time away and the bird's attitude in flight and building indicated it was going some distance for material, I could not determine that both birds were building.

On April 24 the bird was still building. It was late on this afternoon that I first observed the bird to rest from its building. It sat in a big elm and a beech nearby and sang the Indigo-bunting-like song of the Sycamore Warbler (*Dendroica dominica*).

On April 30 and May 1 the nest was watched for only short intervals with no sign of the birds. Building had apparently been completed. The bird was observed on the nest May 7; it appeared to be incubating on May 14. On May 15 both birds were at the nest; one approached to incubate.

The next observations, on May 21 and May 22, record no activity at the nest, and the birds were not seen at the nest subsequently.

An observation such as this is a very simple one, but it is reported because of the rarity of a Sycamore Warbler building in pine in the Nashville area. This was a large pine at the edge of an old grove of native Virginia pine. It is fifty to seventy-five feet from a spring branch and two fairly large sycamore trees (*Platanus occidentalis*). The pine was chosen over a number of sycamores along a creek close by. The whole area is in the South Harpeth Valley 20 miles from Nashville.

Reports of Sycamore Warbler nests from the Nashville area describes

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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

them only in sycamore trees. It may be that most of us look for this warbler in the Sycamore tree, whereas if we looked for it more objectively, we would find it building in a limited variety of other trees—
KATHERINE A. GOODPASTURE, 408 Fairfax Ave., Nashville (5) Tenn.

NOTES HERE AND THERE

FALL FIELD DAYS—The Knoxville Chapter held their Fall Field Day on September 18, and on that day covered the same area as during the Spring Field Day, a circle of seven and a half miles radius centered near the northwest corner of Knoxville. About a dozen observers participated and a total of 86 species of birds were observed. The Kingsport Chapter held their Day on September 25, when they covered the city of Kingsport and its immediate vicinity. Five observers took part and the list of species totalled 57. The Elizabethton Chapter, on October 2, compiled the impressive total of 105 species.

ERRATUM—In the report of the Spring Field Days in the June 1949 issue of THE MIGRANT the headings of two sets of columns of the table were interchanged. The columns headed "Roan Mountain" should be "Elizabethton", and vice versa.

GLENHAVEN

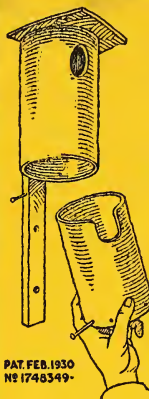
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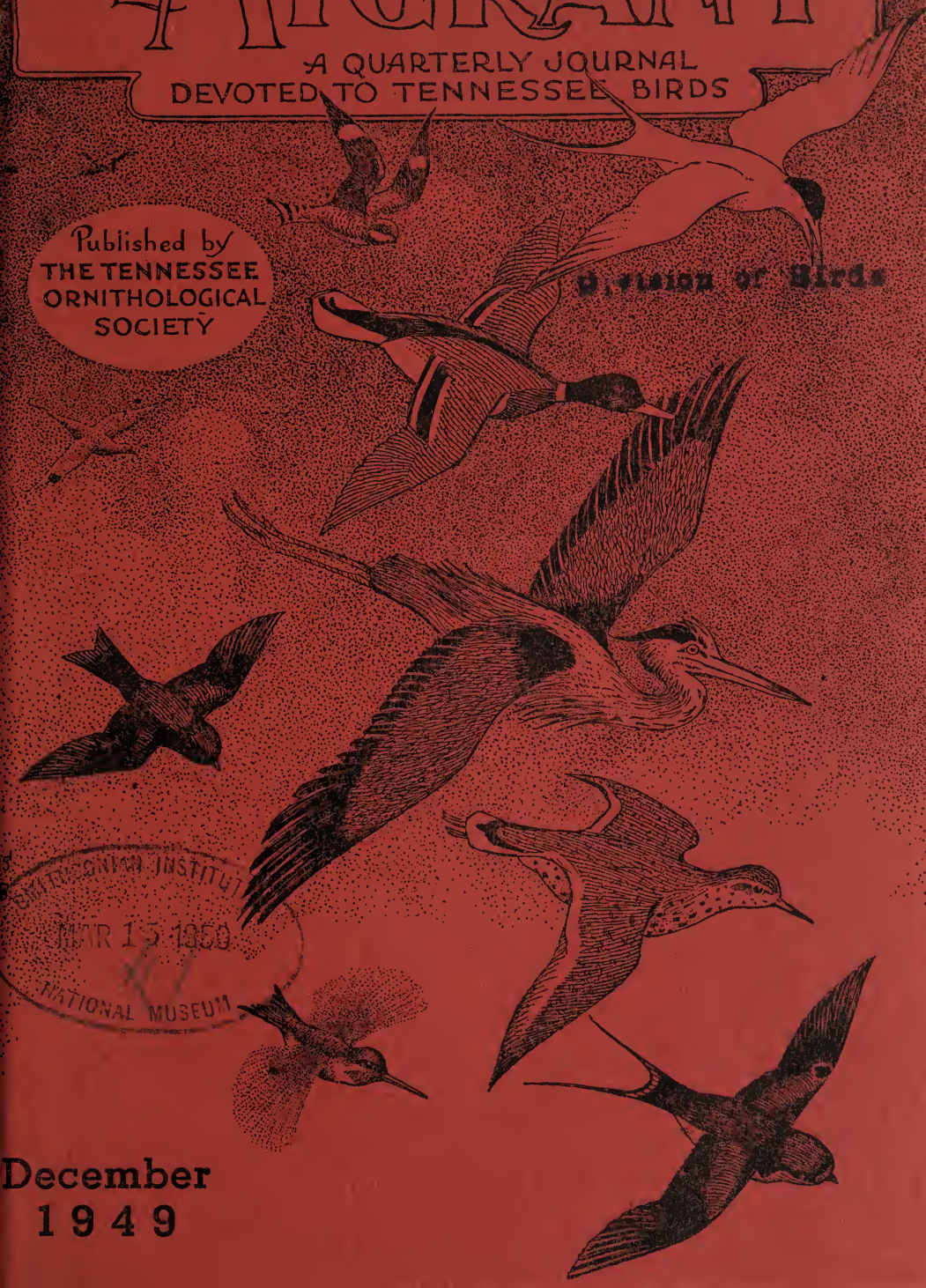
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NESTING NOTES ON THE BROAD-WINGED HAWK

By ALBERT F. GANIER

On April 18, 1948, a Broad-winged Hawk (*Buteo p. platypterus*) was observed soaring over Marrowbone Creek, about ten miles northwest of Nashville, as though settled for the season. A search there a week later resulted in finding a new nest under construction as well as a last year's nest about three hundred feet away. These two nests were on a well wooded hillside, the growth consisting chiefly of beech, oaks, and maple. On this date, neither hawk was seen.

On May 1, I visited the new nest and saw that the incubating bird was sitting upon it. Her tail was toward the valley and was easily discernable because of the flimsy construction of the nest. Walking to a point sixty feet up hill from the nest tree, I noted her head, held high and observing me intently, as I buckled on my climbing irons. As I arose to walk toward the nest tree, she flew from the nest, and was not seen or heard during the time I remained. The nest was about forty feet up in a white oak which measured a foot in diameter near the ground. There was a larger white oak about ten feet further up the hill. The nest was placed against the bole of the tree, about two-thirds the way to the top and at a point where two large limbs left the main trunk, thus forming a triple crotch. In this respect its situation was typical for this species. It was found to contain three nearly fresh eggs, all very beautifully marked with shades of fawn and chestnut brown. They varied very little in size and the average of their width and length was 1.58 by 1.92 inches (40 by 50 mm). Bits of white down that the bird had plucked from its breast were sticking to the twigs all about the nest.

The structure was a new one and was composed entirely of broken twigs except for a lining of bits of dead outer tree bark. Over this lining however had been laid a single but complete layer of fresh beech leaves. This habit of using green leaves appears to be quite universal with this hawk, according to Burns, Bent, and other authorities. I have also found it to be typical of the Mississippi Kite, whose late nesting habits cause incubation to extend well into June.

Not having had much luck in finding nests of this rather uncommon hawk, I removed the eggs for my collection. The birds did not lay another set in this nest, but I have reason to believe the pair raised a brood since I found another typical nest a few hundred feet away during the ensuing winter.

On May 5, 1949, I again visited the woods and soon found a new

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nest only a hundred feet from their first one of last year. It too was in a white oak tree, of a somewhat larger size, and of a similar location within the tree. An incubating bird sat low upon the nest as I made my preparations to ascend. It left the nest as before, quite silently, and was not seen or heard during the half-hour of my stay. The three eggs were quite different in their markings from those of 1948, one having no markings whatever upon the grayish-white ground and the others being sparsely marked with small brown specks. Judging by the markings of the eggs, the 1949 female was a different bird from the one of 1948. Further evidence of this conclusion was furnished by the finding of the wing and tail feathers of an adult Broad-wing upon the ground nearby, and it is believed that this victim had recently been shot. The eggs were fresh, judging by the time the young hatched later.

My next visit was on June 9, with Bill Crouch, when we examined the nest and found it to contain three downy white young about a week old. On June 29, Crouch and Mrs. Amelia Laskey visited the nest for the purpose of banding the young but found only one of them in it. It was by no means developed to the point where it should have left the nest and the fate of the other two is in question. The parent birds were still keeping green leaves in the nest.

The accompanying photographs show the nest with eggs, also the nest with young as they appeared on June 9. In order to secure these photos it was necessary to climb out on a limb which extended above the level of the nest and to rope it to the upright limbs still higher to enable it to bear my weight, thus permitting photography at a distance of five feet. This technique is mentioned here for its possible use by others who would have occasion to photograph such nests.

That the Broad-wing will sometimes use the same nest in subsequent years has rarely been recorded. Bent says, "Only once have we known a pair to use the same nest two seasons." However, the writer had such an experience with the first nest he ever found. This was at Vicksburg, Miss., when on May 8, 1897, he found a nest containing three well incubated eggs in a nest built in a triple crotch of a large black oak. On May 13, 1899, the nest was again visited and found to contain two eggs of the Broad-wing, incubated about twelve days.

As previously mentioned, these hawks are rather uncommon in Middle Tennessee, and when found are usually in well-timbered hill country, such as we have in the "breaks" of the Highland Rim. The presence of a nearby small, open marshy area kept moist by a spring seems to attract them, since there may be found frogs, crayfish, small snakes, and other quarry to their liking. Except when feeding young this species is believed not to molest feathered prey, but under pressure of such necessity it will do so. On June 27, 1946, returning from the Unicoi mountains with Alfred Clebsch, we came upon four dead Broad-wings that had been shot and thrown into the highway. This was a pair, and presumably, their newly fledged young. The male was freshly killed and was preserved as

a study skin; the female could not be preserved but its crop was examined and found to contain a young Yellow-breasted Chat, only a few days from the nest. The measurements of the above male, as well as of one shot on May 27, 1928, at Rock Island, Tenn., are smaller than is given in the literature. The length, wing, and tail measurements of the former, in inches, are 14.50, 10.30, and 5.60, while for the latter they are 14.00, 9.95, and 5.54 with wingspread of 34.0.

While discussing these hawks, I should perhaps mention that they are highly migratory and are resident in the United States only long enough to nest and rear their young. There are so few acceptable winter records that it is probable they consist only of birds that for some physical reason are unable to make the autumnal flight to their true winter home in Central and northern South America.

2112 WOODLAWN DR., NASHVILLE, TENN.

THE 1949 CHRISTMAS SEASON BIRD COUNT

By T. O. S. MEMBERS

The 1949 Christmas bird counts were held in twelve localities in Tennessee. A total of 107 different species were recorded over the State. Reelfoot Lake was the locality with the largest number (75) of species reported from one locality; the average number of species from one locality was 51. The total of 107 just missed equalling the 1942 record of 108 species.

A glance over the list will reveal many unusual records of species rare or accidental in this State. Equally interesting are comparisons of the numbers of some birds between the years 1947, 1948, and 1949. For these three years, Red-breasted Nuthatches appeared this winter for the first time in four localities other than the Great Smoky Mountains, and in the Smokies the number reported is 175 as compared with 12 the previous year and 31 in 1947. On the other hand, this seems to be a lean year for Myrtle Warblers and Juncos. Seven localities reported considerably fewer Myrtle Warblers this winter than in the two previous years, with the others reporting little change except for one locality with a higher number. Six localities report a comparatively low number of Juncos with others reporting no apparently significant change or a slight increase. A similar comparison for other species would probably reveal some interesting changes.

In the table and descriptions that follow, the localities are listed from west to east. Under the heading "Information on the Counts" are described the areas, types of habitats covered, weather conditions, number of observers or parties, miles covered, number of species and approximate number of individual birds observed, and the names of the observers. The species and numbers of individuals observed at each locality are listed in the table. For additional information or comments on the records marked with an asterisk (*), see the paragraph containing information on that particular locality.



TABLE OF 1949 CHRISTMAS BIRD COUNTS

	Memphis	Reelfoot	Jackson	Henderson	Clarksville	Nashville	Murfreesboro	Great Smokies	Greeneville	Kingsport	Johnson City	Elizabethton
Pied-billed Grebe		43		1		5	1	1				11
Double-crested Cormorant		217										
Great Blue Heron	4	4		1	2				2			
Canada Goose		480								70		
Snow Goose		*1										
Blue Goose		*1										
Mallard	1	256		2		9						
Black Duck		9								4		
Gadwall		21										
Pintail		8										
Green-winged Teal		5										
Shoveller		40										
Wood Duck		3										
Ring-necked Duck	4	75		2		2						
Canvasback		61										
Lesser Scaup		55		7								
American Golden-eye		7										
Ruddy Duck		1										
Turkey Vulture	9		14	60	1				36		1	
Black Vulture	28		10	18	9	15	1		2			
Sharp-shinned Hawk	1		1									
Cooper's Hawk	7		1			1	3	1	2			2
Red-tailed Hawk	9	10	1			4	1	3				1
Red-shouldered Hawk	7	9	1		2	3			1			
Bald Eagle		*17										
Marsh Hawk	3	2	1		1	1						
Duck Hawk		1							1			
Sparrow Hawk	25	4	5	1		15	3	3	5	1	1	3
Ruffed Grouse									5			4
Bob-white	19		1			38	25	8				
Turkey								4				
Sora		*1										
Florida Gallinule		*1										
Coot						1						
Killdeer	214	3	32	3	30	108	12	35	3	12		35
Wilson's Snipe	33		2			2				4		
Herring Gull		10										
Ring-billed Gull	9	78										
Mourning Dove	5	4	124	4	11	83	2	75	112		8	91
Screech Owl							1	2				1

1949 CHRISTMAS BIRD COUNT—Continued

	Memphis	Reelfoot	Jackson	Henderson	Clarksville	Nashville	Murfreesboro	Great Smokies	Greeneville	Kingsport	Johnson City	Elizabethton
Great Horned Owl						1		1				
Barred Owl	6	9	8									
Short-eared Owl					1							
Belted Kingfisher						4		2	2	1		1
Flicker	104	33	23	8	3	57	1	4	4	10	2	5
Pileated Woodpecker	1	5	2		5	7	2	4	4	3	1	3
Red-bellied Woodpecker	34	36	34	3	6	30	3	1	6	4	2	
Red-headed Woodpecker	9	2	2									
Yellow-bellied Sapsucker	12	7	5	1	1	12		3	1	1		1
Hairy Woodpecker	8	7	4	1	2	5		1	2	1		1
Downy Woodpecker	48	22	6	3	7	33	1	13	7	14	10	13
Phoebe	1					1		4	1	7	1	6
Horned Lark	26		4		9	46	25	20	12	24	135	22
Blue Jay	352	33	70	8	5	24	3	3	28	12	4	8
Raven								5				
Amer. Crow	36	45	22	4	31	80	9	110	*	115	32	71
Black-capped Chickadee								*				*8
Carolina Chickadee	174	54	23	16	8	92	5	*148	53	49	10	71
Tufted Titmouse	88	26	22	9	10	41	8	22	45	32	5	29
White-breasted Nuthatch	3	4	1	1		1		1	11	1		
Red-breasted Nuthatch	1							175	1	1		2
Brown Creeper	17	10	1	2		6		8	3	5		1
House Wren								*1				
Winter Wren	17	6	1	1	7	2		4				
Bewick's Wren	1	1	7	2		4	3	1	5			
Carolina Wren	95	66	28	1	11	33	8	18	40	42	12	31
Long-billed Marsh Wren		2	*1								3	
Short-billed Marsh Wren		1										
Mockingbird	117	11	25	6	10	71	3	6	34	16	14	9
Catbird												1
Brown Thrasher	39		2			1						
Robin	336	29	66	90	222	*	9	52	9			4
Hermit Thrush	25	2	4	1	1	3		7				2
Bluebird	47	6	49	15	13	55	3	33	32	11	22	39
Golden-crowned Kinglet	51	10	9	8		6	1	62	8	5	3	7
Ruby-crowned Kinglet	17	9	1	3		1		2				1
American Pipit	50											
Cedar Waxwing	160			70	4	12						
Loggerhead Shrike	20	12	6	4		3	2	2			3	2
Starling	1819	1750	350	150	376	*	100	100	115	450	285	350

1949 CHRISTMAS BIRD COUNT—Continued

	Memphis	Reelfoot	Jackson	Henderson	Clarksville	Nashville	Murfreesboro	Great Smokies	Greeneville	Kingsport	Johnson City	Elizabethton
Myrtle Warbler	139	43	11	.....	4	36	.....	13	4	1	8	17
Palm Warbler								3				
English Sparrow	383	225	260	70	14	70	.....	260	73	82	120	134
E. Meadowlark	248	14	81	24	51	48	.....	100	15	15	21	14
Red-wing	15	*	.....	6	1	.....	.....	.....	.....	.....	.....	.....
Rusty Blackbird		147	13	17	45	325	.....	.....	35	.....	.....	.....
Purple Grackle		3500	73	50	24	*500	.....	3	.....	.....	.....	.....
Cowbird	6	5000	29	.....	2	*3000	.....	.....	.....	.....	.....	.....
Cardinal	459	153	55	20	23	142	18	48	137	42	40	87
Purple Finch	9	.....	1	.....	9	10	.....	2	.....	.....	20	1
Pine Siskin								135	.....	.....	.....	.....
Goldfinch	235	23	14	35	7	54	.....	220	55	22	52	80
Red Crossbill								32	.....	.....	.....	.....
Red-eyed Towhee	88	.....	9	5	12	43	18	8	6	4	2	8
Savannah Sparrow	11	.....	4	.....	.....	1	.....	2	.....	8	2	.....
Leconte's Sparrow			2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vesper Sparrow .....								.....	.....	.....	5	.....
Slate-colored Junco	571	58	117	1	3	117	4	320	63	54	31	45
Tree Sparrow		8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chipping Sparrow	*1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Field Sparrow	172	55	10	16	24	61	6	73	45	51	10	54
White-crowned Sparrow	13	3	23	.....	1	19	10	.....	22	4	25	20
White-throated Sparrow	1379	78	47	3	50	126	3	63	49	14	4	81
Fox Sparrow	47	33	3	.....	1	1	6	.....	.....	.....	.....	3
Swamp Sparrow	61	52	1	9	.....	21	.....	7	.....	.....	.....	3
Song Sparrow	251	56	61	3	18	39	6	120	35	41	34	56
Lapland Longspur	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

MEMPHIS, Tenn. (1946 area but bottomland coverage reduced on account of partial flooding; wooded bottomland 30%, deciduous woodlots including city parks 25%, airports, pastures, and old cottonfields 20%, suburban roadsides 25%).—Dec. 26, 1949; 6:30 a.m. to 4:30 p.m., coverage chiefly 7:30 a.m. to 3:30 p.m. Rain to 7:30 a.m, overcast with occasional drizzle afterwards; wind 1-7 m.p.h.; muddy and water in fields. Observers in 4 main parties, 2 pairs, and 2 singles, the main parties breaking up at various localities worked; weather delayed start and poor visibility reduced late afternoon results. Total party hours, 85; total party miles, 240 (65 on foot, 175 by car). 68 species, about 22,144 individuals. Mr. and Mrs. Ben B. Coffey, Jr., Jimmy Allen, Mrs. Floy Barefield, Mrs. Elizabeth Bar-

ton, Robert Burton, Frederick T. Carney, Harold Clark, Mary Davant, Dr. Mack Evans, Harry Geyer, Jr., Newton Hanson, Oliver Irwin, Luther F. Keeton, Lawrence C. Kent, Charles E. McPherson, Jr., Mrs. J. H. McWhorter, Jim McWhorter, Patricia Moore, John Robertson, Alice Smith, R. Demett Smith, Jr., Mrs. M. L. Torti, Maurice Torti, Plato Tuliatos, Brother I. Vincent, Mrs. Rose Wooldridge, Alan Zeigler (Memphis Chapter, T.O.S.).

The number of Purple Grackles reported was 13,759 plus-or-minus 200. The Chipping Sparrow was identified by R. Demett Smith.

REELFOOT LAKE, Tenn. (Essentially the same area as in previous two years; from Gray's Camp south to Tiptonville and east around lake via Spillway and Samburg to Walnut Log, including timbered bottomlands on west, and hills on east side of lake; deciduous woodland 45%, open lake 30%, roadside 15%, farmland 10%).—Dec. 26, 1949, 6:30 a.m. to 5:30 p.m. Rain in early a.m., fog and drizzle in latter part of afternoon, overcast all day; temp. 40 to 55; wind N, 0-10 m.p.h. Six observers in two parties. Total party hours, 22; total party miles, 73 (56 by car, 6 by boat, 11 on foot). 75 species, approximately 2,513,111 individuals.—Mr. and Mrs. Howard Barbig, Herbert Clarke, James L. Norman (compiler), Thomas Walker, Jr., and P. W. White, Jr.

Both the Snow Goose and the Blue Goose were adults and were observed at close range. Bald Eagles were unusually numerous, twelve being observed at one time. The Sora was observed on two occasions at a distance of twenty feet, by Norman, Clarke, and White. The Florida Gallinule was collected. An estimate of 500,000 Red-wings and of two million mixed blackbirds were made on the day of the count from points on opposite sides of the lake, both points being eight or ten miles from Samburg, thus eliminating any possibility of duplication. On December 28 (two days after the count), an estimate was made of the Red-wings as they streamed into the sawgrass roosting area at Samburg. The same method of estimation was used as was employed in making last year's estimate, from the same vantage point, and a total of 2,640,000 Red-wings was obtained. Last year's estimate of Red-wings coming to roost was 2,430,000.

JACKSON, Tenn. (Huntersville east to West Tennessee Experiment Station and South Fork of Forked Deer River bottoms, northwest to Spivey's and Harris's ponds and Cypress Creek bottoms; mature timber bottoms 10%, young growth of river birch and gums 40%, open fields 20%, overgrown pastures 10%, mixed hardwood grove 10%, ponds 8%, feeding station 2%).—Dec. 27, 1949; 7:00 a.m. to 5:00 p.m. Clear in early a.m. rest cloudy; temp. 53 to 57; wind W, 3-7 m.p.h. Two observers in one party. Total party hours, 20 (17 on foot, 3 by car); total miles 76 (60 by car, 16 by foot). 60 species, about 1,784 individuals. Mrs. W. Roever, and Kilian Roever.

The Long-billed Marsh Wren was seen at a distance of ten feet,

with 8x glasses; the white eye stripe and the shoulder stripes were clearly noted. Also seen in the same area during the Christmas Count week were Woodcock, 2; Barn Owl, 2; American Pipit, 2; Cedar Waxwing, 10.

HENDERSON, Tenn. (Vicinity of Henderson and Chickasaw State Park).—Dec. 21, 1949; 9:15 a.m. to 5:30 p.m.; temp. 62 to 72; high winds, gusts as much as 40 m.p.h., partly cloudy, fair toward noon. One party, two observers; 46 miles by car, 5 by foot. 46 species, 765 individuals. Bill Malone, Robert L. Witt (compiler).

CLARKSVILLE, Tenn. (Paradise Hill Road, Hiatt's Garden, T. C. Rwy, McAdoo Creek, Indian Mounds, Marks' Slough).—Dec. 29, 1949; 7:30 a.m. to 4:30 p.m. Cloudless; temp. 30 to 60; no wind. One party, three observers. 14 miles on foot. 45 species, 1078 individuals. Floyd Brown, Alfred Clebsch (compiler), and Edward Clebsch.

NASHVILLE, Tenn. (South and west of the city, including 85 acre Radnor Lake and surrounding wooded hills, Otter Creek road, Hobbs and Hillsboro roads, Little Harpeth River valley, Edwin Warner and Percy Warner parks, 101 pasture, Hill-wood, Bosley Spring, and Bell's bend of the Cumberland River. 25% open fields, 25% wooded pastures and park lands, 10% dense woods, 40% thickets, ditch banks and roadsides).—Dec. 26, 1949. 6 a.m. to 5:30 p.m. Overcast, visibility fairly good. Temp. range 52-58; wind from west, average 10 m.p.h. Ground bare and wet. 18 observers in 4 parties. Total party hours, 36 (30 on foot, 6 in car); total party miles, 40 (18 on foot, 22 by car).—61 species, about 265,531 individuals. Mr. and Mrs. B. H. Abernathy, Hearn Bradley, Louis Branscomb, Tom Butler, Albert F. Ganier (compiler), Helen M. Howell, Bob and John Johnson, Amelia (Mrs. F. C.) Laskey, G. R. Mayfield, George R. Mayfield, Jr., Al and Yvonne Mayfield, Don Miller, James A. Robins, Edwin and Dan Schreiber, Robert Sollmann. Members of Nashville Chapter, T.O.S.

The greater part of 10,000 Robins, 250,000 Starlings, 500 Grackles, and 3,000 Cowbirds (numbers estimated) recorded on this day were at a roost in the southwestern suburbs of the city. They were using a three-acre deciduous woods and adjacent untrimmed privet hedges. After three nights of observations the Robins were estimated at 10,000 and incoming flocks contained about 25 Starlings to one Robin.

MURFREESBORO, Tenn. (not over 5 miles from city).—Dec. 26, 1949. Cloudy; temp. 60; little wind. Two observers. 34 species, 306 individuals. H. O. Todd, Jr. and Harvard Todd.

GREAT SMOKY MOUNTAINS NATIONAL PARK, Tenn.-N. C. (essentially same area as in past 12 years; circle with 7½ mile radius centering on Bullhead of Mt. LeConte, including a section of the Tennessee-North Carolina divide from near Clingman's Dome to Dry Sluice Gap; towns of Gatlinburg and Pigeon Forge, Tennessee; altitude range from 1200 to 6300 ft.; spruce-fir forests 30%, deciduous forests 20%, open

farmland 20%, abandoned fields 10%, towns and suburbs 10%, pine forests 5%, stream courses 5%).—Jan. 1, 1950; 6:45 a.m. to 5:30 p.m. Partly cloudy to overcast; temp. 30 to 56; wind westerly, light at low altitudes, to about 20 m.p.h. at high altitudes; ground bare. Thirty observers in eight parties. Total party hours, 65; total party miles, 182 (124 by car, 58 on foot). 59 species, approximately 2360 individuals. Dr. and Mrs. G. E. Albert, John R. Barrett, Mr. and Mrs. Harvey Broome, Richard C. Burns, Mary Ruth Chiles, Brockway Crouch, Mr. and Mrs. Sumner Dow, Robert J. Dunbar, Robert Goddard, Joseph C. Howell, William M. Johnson, Mr. and Mrs. H. F. Leonnard, Bonnie McDonald, S. R. Meaker, Mr. and Mrs. Robert A. Monroe, Elise Morrell, J. B. Owen, Edward Shelley, Jr., Glen L. Shults, Arthur Stupka (compiler), Dr. and Mrs. Samuel R. Tipton, Thomas Walker, D. W. Yambert, William Yambert (members and guests, T.O.S., and National Park Service).

The 148 Chickadees observed included both Black-capped and Carolina. The House Wren was identified by Richard C. Burns, Assistant Park Naturalist. This was the highest number of species ever recorded in the Great Smoky Mountains Christmas Count.

GREENEVILLE, Tenn. (Reed farm along Roaring Fork Creek, Bay's Mt., Tusculum College, Davy Crockett Lake; open farmland 50%, woodlands 30%, streambanks 15%, city suburbs 5%).—Dec. 28, 1949; 7:30 a.m. to 5:00 p.m. Clear; temp. 35 at start, 50 at return; wind 0-5 m.p.h. Eight observers in 4 parties. Total hours afield, 25; total miles 53 (18 on foot, 35 by car). 43 species, 13,925 individuals. Mrs. Willis Clemens, Mrs. Fred Cox, Mr. and Mrs. Richard Nevius (compiler), Frank Pickering, C. M. Shanks, Bob White, J. B. White.

The number of Crows seen was estimated at 12,800.

KINGSPORT, Tenn. (Area was a circle of 15 miles diameter, with center at Pactolus school, southeast of Kingsport. Area included Bay's Mountain, City of Kingsport, Gray Station fish hatchery, and Hall Ford on the South Fork of the Holston River).—Dec. 26, 1949; 7:30 a.m. to 5:00 p.m. Cloudy, with rain for much of the day; little wind; temp. ranged from 50 to 60. Seven observers participated. Total party miles, 36 (4 on foot, 32 by car). 38 species, approximately 1,233 individuals. Dr. Lee R. Herndon, Mr. and Mrs. Robert Pugh, Mr. Thomas Finucane, Miss Ruth Dunn, Mrs. Ann Switzer, and Mr. Howard Young (compiler).

JOHNSON CITY, Tenn. (Cox Lake and Boone's Creek, Pickens Bridge, Indian Ridge).—Jan. 1, 1950; 7:30 a.m. to 2:00 p.m.; fair and cloudy, wind calm. 34 species, 928 individuals. Robert B. Lyle, and Bruce P. Tyler (compiler).

ELIZABETHTON, Tenn. (Same area as in the past six years with center at Valley Forge; Watauga Lake, Watauga and Doe Rivers, Buffalo and Gap Creeks and adjacent areas; lake border 5%, stream borders 60%, woodlands 25%, open fields 10%).—Jan. 1, 1950; 7:30 a.m. to 5:30

p.m.; clear in morning, overcast to cloudy in afternoon; still in valleys, 5 to 15 m.p.h. wind at higher altitudes; 29 degrees at start, 47 at end. Fifteen observers in six parties. Total party hours 34; total party miles 88 (33 on foot, 55 by car). 47 species, approximately 1439 individuals. Mr. Fred W. Behrend, Mr. and Mrs. J. C. Browning, Miss Katherine and Mrs. Hugo Doob, Jr., Mr. Thomas W. Finucane, Mr. Lee R. and Lois Herndon, Mr. and Mrs. George K. Leonard, Mrs. Robert W. Pugh, Mr. S. M. Russell, Mrs. Hugh L. Taylor, Mrs. E. M. West, and Dr. Howard S. Young.

The Black-capped Chickadees were observed between the elevations of 4000 and 4300 feet by Fred W. Behrend and S. M. Russell. The Catbird was identified by Mr. and Mrs. J. C. Browning.

THE ROUND TABLE

SOME OBSERVATIONS IN THE MEMPHIS AREA.—On October 22, 1949, a group of the Memphis T.O.S., Herbert Clarke, Victor Julia, Oliver F. Irwin, Mrs. Barbig, and myself, visited the Horseshoe Lake area, twenty-five miles southwest of Memphis, at Bruins, Ark. Approximately 1000 Coots were seen from Harahan Bridge on the Mississippi River near Memphis. In the morning we noticed a small gull, near the east end of Horseshoe Lake, which was identified as a Franklin's Gull. Passing the same spot in the afternoon, we were surprised to find the bird at the same location. Further observation showed that the gull's left wing had a definite droop. We decided that it was injured.

Use of a boat, or rather a few boards nailed together, was secured from a nearby boat-rental place. We chased the bird over a small area and found that, although he could beat both wings, he could not fly. Nevertheless, he was able to swim very well. After much chasing, we finally caught it, or rather it caught me by the thumb when I made a grab for it, and we carried it back to shore. The bird was taken to the Memphis Zoo and appears to be doing very well.¹ Although there are a few records of the bird for this area, it is considered a rare species here. The ends of the primaries and tail feathers were ragged and appeared worn, possibly indicating that the bird had flown a considerable distance or else had been beating them on the water in an unsuccessful attempt to fly.

This trip proved to be a day long to be remembered as we also saw a Caspian Tern circling over Porter Lake, just east of Horseshoe and connected with it by Mosquito Bayou. This beautiful bird passed several times and once flew straight at us at close range. Near this same spot a Duck Hawk was identified by Herbert Clarke. American Egrets were still present in fair numbers, twenty being counted, and about twenty

¹Mr. Barbig sent four pictures of the captured Franklin's Gull, showing it to be an immature bird.—Ed.

Ring-billed gulls were gliding over the Mississippi River near Porter Lake. Other birds recorded were Anhingas, 2,000 Cormorants, 3 Bald Eagles, an Osprey, and eight species of ducks. Gadwall and Baldpates predominated in the duck population; approximate counts of 400 of each species were made. Only fifty Lesser Scaup were present. On Nov. 6 at the same location, the picture had changed, and 400 Ring-necked, 400 Lesser Scaup, only one Baldpate and ten Gadwall were there. Other ducks in smaller numbers were present on both dates. The American Egret was still present, six being counted. On Nov. 20 one American Egret was seen at Tunica Cut-off.

On October 23, 1949, Herbert Clarke, Mrs. Barbig, and I, en route to the Fall Field Trip at Shelby Forest, stopped at Field 21, a little-used air field between Raleigh and Millington, north of Memphis. The landing area is paved with a black-top material, and as it had been rather cool and damp the night before, about 2,000 Tree Swallows were getting warm on the pavement, which was radiating heat from the sun. About 300 Tree Swallows were also on the electric wires, and with them were two Cliff Swallows and one Rough-winged Swallow.

I have been wanting to publish a few other records of interest from my personal files for some time, and as this is a good opportunity to do so, I shall include a few of them here. Having spent most of my spare time for over twenty years studying birds, mostly in the East, I was not too surprised to find a White-winged Scoter on Porter Lake, near Bruins, Ark., on February 8, 1947, soon after coming to Memphis. This duck was observed at very close range through 10X binoculars. It was barely twenty feet from shore, and not over forty from the car. After watching this duck from the car for some time, I decided to get out to see if it was injured, as it did not seem to mind my presence. The duck took off, flying close to the surface of the water, and landed about fifty yards up the lake, again close to the south shore. It apparently was not injured. I was soon to learn that this duck, which I believe was a male about 1½ years old, had not previously been recorded in this area.

I have several records of the Henslow's Sparrow, one being for February 26, 1949, when five were seen near Arkabutla Reservoir, North Mississippi; another being for March 27, 1949, when six were seen a few miles east of Memphis.

On June 13, 1948, Mrs. Barbig and I saw seven White Pelicans on Tunica Cut-off, an old river-bed lake west of Tunica, Miss. This date seems unusual, although the bird is recorded almost every year usually in the autumn.

On April 12, 1947, on the Mississippi River near Horseshoe Lake, we observed the Common Loon, our only record for the Memphis area. Several records have been published, but this is apparently a rare species here.

On September 26, 1949, Mrs. Barbig observed the Red-breasted Nuthatch, at home near Bartlett, Tennessee. Our previous records for the area have been in the spring, and as there seems to be no fall record pub-

lished for comparative purposes this may be of interest.

Our first Upland Plovers for the season arrived at the Memphis Airport on July 1, 1949, and were observed several times a week until July 17, at which date they were still there. We believe this date to be unusually early for the area. We were able to count fourteen birds together.

On July 17, 1949, 30 Wood Ibis were at Mud Lake, near Lakeview, Miss. On July 31, 30 again; August 8, 70 were seen; August 21, about 150 were counted in six trees and probably more were present. August 28 only produced two, and on September 5 none were seen.

Regarding the fall shorebird migration at Mud Lake, on July 30, Pectoral, Spotted, and Solitary Sandpipers were present. By Aug. 21, they were there in numbers, and the Stilt Sandpipers, both Yellow-legs, "peeps", and Pectoral were present. On August 28, thousands of birds were present, as water conditions were just right, and in addition to those mentioned, the Semipalmated Plover was added to the list.

From Sept. 18 to Sept. 26, 1949, large "waves" of warblers were seen daily at home. In view of the fact that each "wave" showed a markedly different count on the same species, and different species predominated, they were assumed to be different migrating mixed flocks, rather than one flock stopping over as often seems to be the case.—HOWARD T. BARBIG, Box 424, Route 10, Memphis.

THREE UNUSUAL SPECIES IN NORTHEASTERN TENNESSEE.—

On April 9, 1949, I saw six Upland Plovers at the Tri-City Airport. They were feeding and allowed a rather close approach. Dr. Herndon of Elizabethton accompanied me the next day and confirmed the identification, altho on this day we saw them only in flight. This is the first record of these birds in this area for several years. (Mr. Bruce P. Tyler, Johnson City, reported Upland Plover for March 6, 1933 (MIGRANT 6:31. 1935.).—Ed)

Pectoral Sandpipers were observed at the fish hatchery in Gray Community, Washington County, on April 17, 1949, and again on October 26, 1949. This is apparently the first record for this species in northeastern Tennessee altho they have been observed before in southwestern Virginia.

On October 26, 1949, I acquired the head with neck, and a wing, of an immature Blue Goose, one of two shot the previous day at the above mentioned fish hatchery (This is apparently the second record for this general area; a Blue Goose was shot on the Holston River in Hawkins County on Nov. 8, 1937 (MIGRANT 9: 18. 1938.).—MRS. E. M. WEST, Route 1, Piney Flats, Tenn.

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The simple truth about birds is interesting enough;

it is not necessary to go beyond it.

IT'S THAT TIME OF THE YEAR AGAIN

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Compiled largely by Andrew J. Meyerriecks

The English names of birds used are those given in the A. O. U. Checklist, 1931 edition. Only the names of species are indexed; the names of subspecies are listed with reference to the species name. If a bird's name appears in each of two separate articles on the same page, the page number is listed twice.

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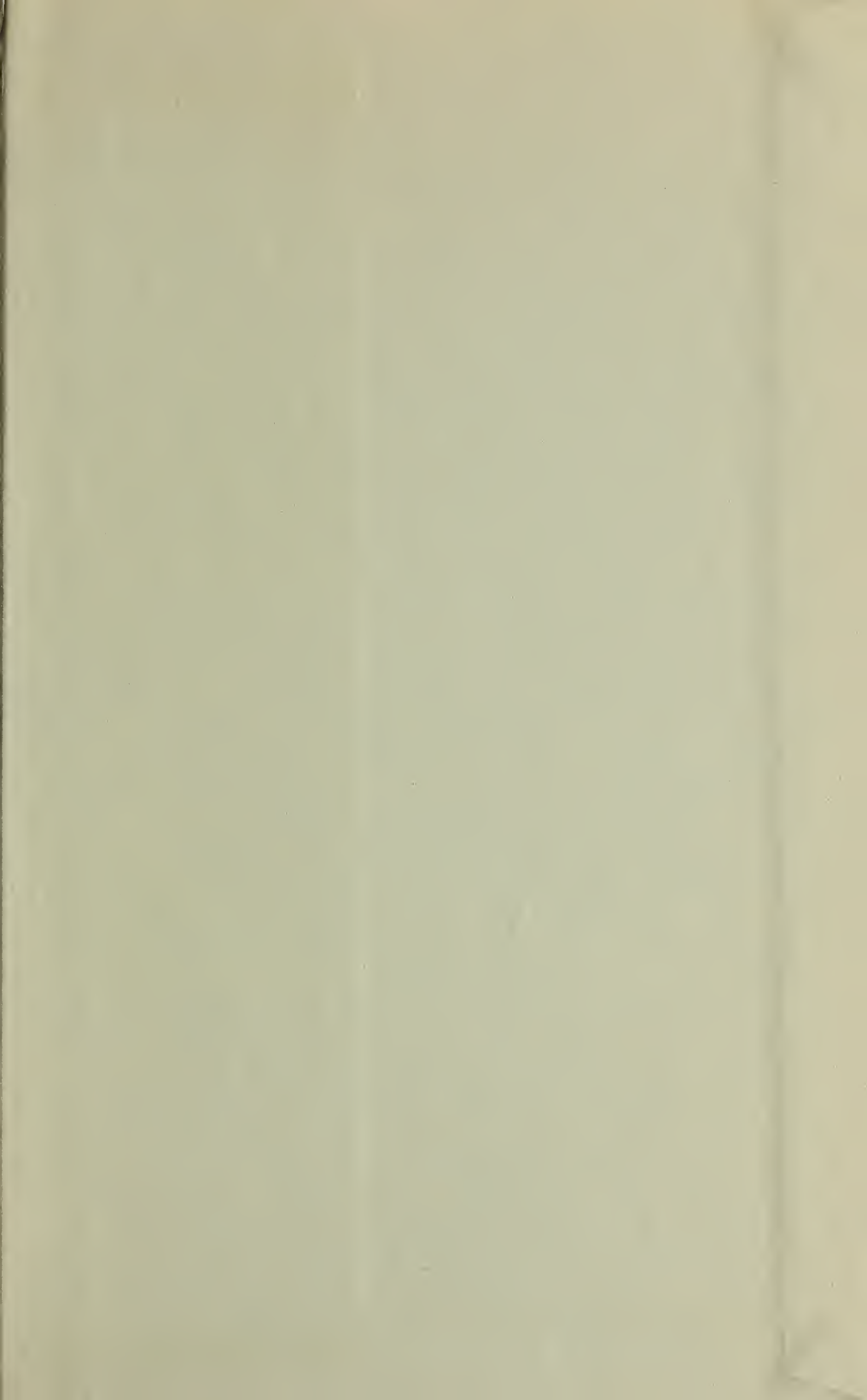
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